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JUNE, 1959



airlift

WORLD AIR TRANSPORTATION

In This Issue:

- BREAKTHROUGH COMING FOR AIR CARGO: SOON
- CAN AIRLINES TAP BUS-AUTO MARKET?
- MEET R. M. ANSETT, AUSTRALIAN TRANSPORT DYNAMO

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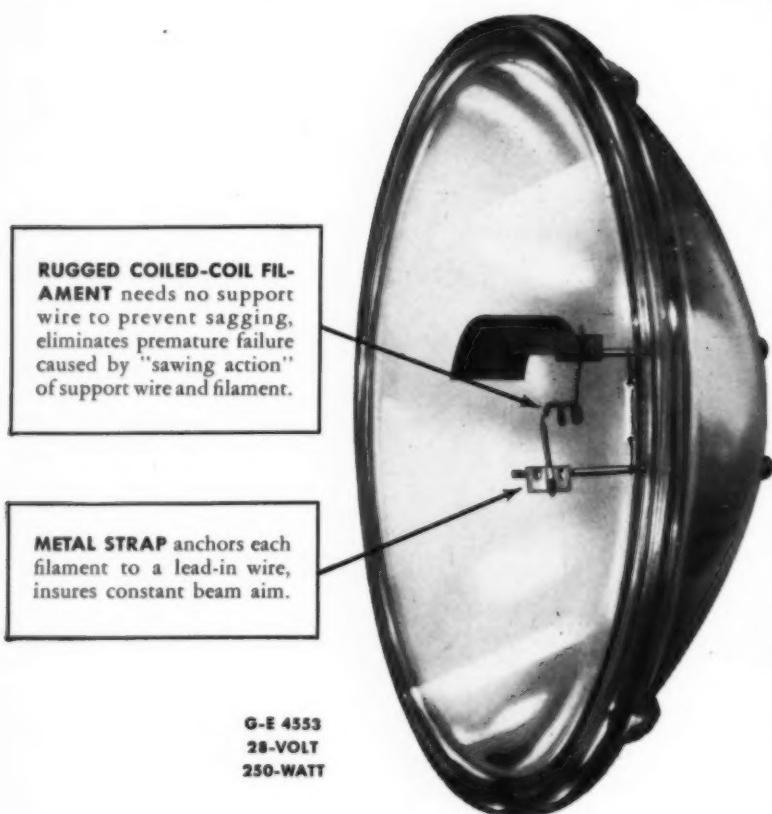
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AIRLIFT

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WORLD AIR TRANSPORTATION

3653-56

CUTTING CARGO COSTS

Lockheed Aircraft has stretched out its C-130. New Super Hercules gives 140% more payload and 40% more range. Operating cost is below 5¢ a ton-mile. Page 26.

**LABOR AND THE AIRLINES**

A cloud of gloom hangs over the airlines' labor future, but one labor union leader, ALSSA's Rowland Quinn, offers an idea he thinks might work. Page 32.

**DETROIT'S METRO AIRPORT**

Detroit's bustling new Metropolitan Wayne County Airport is already filled to capacity. It is a controversial airport—physically and politically. Page 55 and cover picture.

**A NEW MAINTENANCE APPROACH**

Four airlines, National, Pan American, Eastern and Delta, have joined ranks in a once-a-month attack on maintenance problems with good results. Page 65.

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Coming Next Issue: *AIRLIFT* presents the second in its series of articles "Labor Speaks" authored by Clarence N. Sayen, president of Air Line Pilots Association. Also don't miss: "Italy's Come-back Airline, Alitalia," plus a special picture report on the Paris International Air Show.

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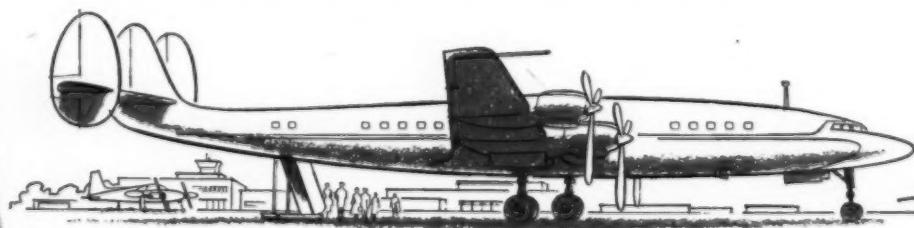


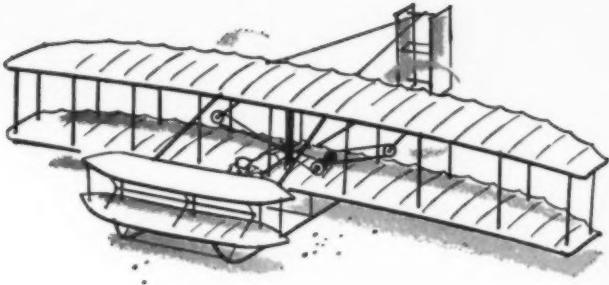
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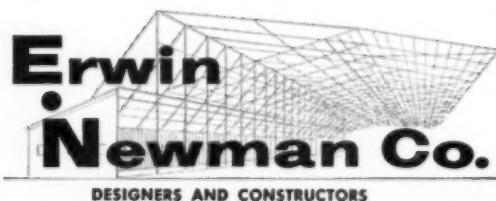
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Hurry-Up Quesada

The most extraordinary man ever to head up aviation in the U.S. Government is Elwood "Pete" Quesada, first Administrator of the Federal Aviation Agency.

He is a man of enormous energy. He has a thousand and one ideas bouncing in the air at any one time. He speaks his piece with unlimited courage at any and all times. He cuts through channels of organization and communications with direct action—to the horror of hide-bound bureaucrats. His ghost-written speeches are dull, his FAA payroll soaring.

He has more power and influence in civil aviation than any man before him—or anyone will likely have after he retires at the end of next year. He is a close and trusted personal friend of the President. He is without question the No. 1 aviation influence in the White House. And a lifetime in USAF until his retirement as a general gives him a knowledgeable edge over all civilians on military matters.

Pete Quesada is a stormy and controversial character. He speaks out sharply when timid folk would hold their tongues. He gets into people's hair. He upsets the calm routine of government organizational procedures. He tries to do too much himself. He doesn't care who he offends or whose toes he steps on. He is considered to have a hot temper. But it would be more appropriate to say that Quesada has an intolerance of procrastination, indecision, poor judgment, and indolence, of which there is a mighty great deal in government. Quesada is a man on the go—and he thinks he knows where he's going.

Not out to win a popularity contest, not running for political office, not seeking or wanting any other job now or later, he just isn't obligated to anyone except President Eisenhower and the nation. He is, in short, a dedicated man who is not only unique as an individual, but unique in his present position. Here are a few high spots of history in the making:

1. Airspace control. An extremely critical problem. Most people in civil aviation don't realize or appreciate the roughness of the battle to merge military and civil air traffic control. Only a man with real guts and dedication to an objective could have won the fight—and it is won today on behalf of all users of airspace. Even the Air Coordinating Committee, that burial ground of committee inaction and indecision, is completely out of airspace matters, thanks to Quesada.

2. Air Cargo. As White House adviser, he has been concerned about surplus aircraft and the fate of airframe manufacturers. A fantastically-large industrial future awaits aviation if (1) a truly low-cost cargo plane can be designed from scratch in order to offer cargo rates competitive with surface and (2) manufacturers can be encouraged to build the

planes and operators given incentive to buy and operate if the military can be persuaded to commit the use of air instead of surface for vast amounts of cargo. Government guaranteed loans can help. He hasn't firmed up all these plans yet—but he's well on the way. If he succeeds a tremendous new air industry is made.

3. MATS. Quesada is a firm believer that the military has no business operating "the world's largest airline" but ought to be doing its primary job—military air logistics. A lot of people in Congress and a surprisingly large number high up in the Pentagon agree. MATS is in-fighting. MATS hates to see its empire be dissolved. But MATS will lose this battle. A hefty chunk of overseas passenger and cargo business will be turned over to air carriers, where it belongs. This will be a boon for all aviation.

4. CAB. As White House adviser, Quesada is in an extraordinarily effective position for constructive good. He believes there should be no political hacks on CAB. Two vacancies are coming up soon. Quesada is out to raise the stature of CAB by recommending to the President the names of transportation experts—and the latter will go along. For once the political party machinery will be shoved aside; politicians need not waste time applying. Maybe such a thing will never happen again—but in 1959 let it be said that nonpoliticians have the inside track for what should be nonpolitical jobs.

These are only a few highlights of Quesada-in-a-hurry. No doubt about it, he has rubbed some people the wrong way. He's tough to work for. He braved the wrath of the airport operators by opposing federal aid for terminal construction. As an organization FAA is anything but smoothed out, in fact it's rather chaotic at the moment. But Quesada's beliefs and opinions are sincere and he has the guts to express them and stick with them. There has never been a dynamo of action in government aviation like him although his successor will inherit problems.

He is entitled to some mistakes. Few would have the stamina to attempt to tackle his over-all job. For our money he may be what aviation has needed to launch FAA in a new era. It's a relief to see ideas, integrity and guts take over for awhile. Right now a lot of folk are unhappy over this, that and the other thing. (The usual knitters and nit-pickers.) But we believe Quesada will be remembered long after for his achievements rather than his fumbles. At least he is moving in the right general direction and we do mean moving. In Washington that means something.

Wayne W. Parish



Pan American 707

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AIRLIFTS

• If you want to be a back seat pilot and hear what the boys in the cockpit are saying, you can buy a Kensico Air Mite for \$29.95, postpaid, from Kensico Electronics, Box 24, Valhalla, N.Y.

Amazingly compact, this tiny transistor receiving set fits into your shirt pocket. It comes complete with battery, earphone, cord and plug and a small antenna (if needed), which you can place inside your coat. The set works at airports and even picks up FM broadcasts. But its primary value is in the airplane.

It all came about because Walter K. MacAdam, a transmission engineer for AT&T, does a lot of flying—and likes to fly. He isn't a pilot, but likes to know what's going on. "Probably this back seat flying is a form of occupational therapy," he explains. "I've often wondered as we flew through the clouds, where we were, what the pilot was doing or saying, or even whether he was worried. Perhaps I'm the Walter Mitty of the Airways, in my imagination easing back on the throttle and bringing in the plane for a smooth landing. At any rate, this urge was coupled with a need for some practical experience with transistors to keep up to date with modern technology."

So out of a hobby has come a sideline business. MacAdam is just about able to keep pace with the demand, isn't anxious to expand. But he's doing a steady business and has prepared some exceptionally clear and detailed description and instructions. No more privacy left in the cockpit—Air Mite hears all!

• The airline industry may be big business, but nevertheless there are still some one-man stations left. One of these is on Bonanza Air Lines at Provo, Utah, where agent John Puskarich holds forth in all his glory. Recently, he wrote in the company's house organ: "This is the lone voice in the wilderness calling out from Provo . . . Yours truly is all alone. This could be called a very quiet place. Dead is what it might be called, too. We see no one, hear from no one and find out nothing."

• Suave and sophisticated Bert Holloway, who has been on an extended rip to Australasia and the Far East promoting the Lockheed Electra and other items as director of advertising, publicity and promotions for Lockheed, found that somebody had been ahead of him in New Zealand, although there is a slight difference in products. In the bathroom of his Auckland hotel

room he found imprinted in the bowl of his w.c., "The New Electra."

• Out in the State of Washington there is a railroad that deadheads its train crews by West Coast Airlines—it's cheaper to transport them back and forth by air than having them wait over and return by train under union pay scales.

• And Boeing's Gordy Williams passes on word that the San Francisco Chronicle carried an item recently about some local railroad buffs in California who were planning a celebration for the 90th anniversary of the completion of the first transcontinental railroad. Somebody inquired why they were celebrating the 90th instead of waiting 10 years for the 100th.

Came the answer, "There may not be any railroads still running in another 10 years!"

• Jim Austin, Northeast Airlines president, was recently queried as to whether or not it was true that NEA was giving in on its rule that no alcoholic stimulants could be served aloft before three in the afternoon. He was quick to confirm that an improvement had been made. He replied, "We are now serving cocktails anytime after 12:00 noon! It is true that we did have a rule that we would not serve drinks until after 3:00—I don't know who made the rule, but I do know who changed it—me!"

• If you have the time and don't mind taking a bit of a trip, you can now get fine American bourbon whisky at greatly reduced rates. BOAC spreads the word to take advantage of the tremendous volume of business generated by the Shannon Free Port. U.S. bourbon distillers are sending the finest of their fine wares to Ireland by air. There apparently is an incredibly fast turnover at the free port. And as BOAC says, it may seem like a merchandiser's dream come true, but it is possible for a bottle of bourbon to be flown from the U.S. yesterday and be on its way back home today!

• A lot of Southern-born pilots are getting unhappy with the Whitman Hotel, Jamaica, L.I., according to reports. The hotel has a big sign out front announcing in splendid letters that hominy grits are available.

It seems that when they go in and order their home-grown delicacy, they are met with blank stares. Nobody but the sign maker seems to have heard of grits.

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LETTERS

Sofia Coming Up

To the Editor:

On page 34 of the March 23 edition, you state in the last sentence:

"Who knows. But visiting the Lenin-Stalin mausoleum is one of the macabre 'musts' for the tourist—there's nothing like it anywhere in the world."

In Sofia, Bulgaria, you will find the same macabre thing in the mausoleum of Dimitrov. Of course this man is quite alone and insofar you are correct that the Moscow mausoleum is unique with these two corpses.

H. MEES,
Adviser to Marketing Management
KLM Royal Dutch Airlines
The Hague, Netherlands

Editor's Note: Thanks to Reader Mees for this tidbit. Sofia coming up. It hasn't been easily accessible to Americans until recently.

Credit To KLM

To the Editor:

Orcids to whom orchids are due!

Well over a year ago, on my arrival in Amsterdam on a KLM flight, I was amazed to find all of the passengers' baggage waiting to be picked up at customs, just after passing through immigration. I thought of writing to you at the time, and then decided that I would give the baggage situation a few more trials, to make sure the first one was not just an accident!

Since that time, I have been in and out of Amsterdam several times, and I can assure you that the first occurrence was not an accident. I have wondered how KLM does this and have arrived at the conclusion that they must have a "flick of gremlins" in each baggage compartment that roar out with the baggage the moment the plane comes to a stop at the ramp!

They deserve a great deal of credit for this particular phase of their service and I am sure that many other airlines, both domestic as well as overseas, could profit by taking a few lessons.

Orcids to KLM.

SAM D. IRWIN, V.P.
Export Div., Curtiss-Wright Corporation
New York, N.Y.

More On Interiors

To the Editor:

I was indeed interested in Mr. W. H. Spannuth's letter in your May issue describing as "paradoxical" my article in the previous issue of *AIRLIFT* (April, 1959) entitled, "What's Wrong with Aircraft Interiors."

Mr. Spannuth, manager of Airframe Engineering for Trans World Airlines, avers that he has no disagreement with this writer's representing himself as having "an understanding of the engineering, manufacturing and operating problems of an airplane." On the other hand, he says, "the general questions, complaints and non-recognition of the major airframe manufacturers' and airlines' present interior design practices" are those which "an inexperienced lay traveler might express."

I respectfully submit that Mr. Span-

nuth's statement is a real rather than an apparent contradiction—unless, of course, the average lay traveler these days is becoming knowledgeable enough to express valid opinions on aircraft manufacturing operation and interior design.

As far as experience is concerned, our firm's work over the past ten years with a great number of airframe manufacturers and airlines, both here and abroad, speaks for itself.

While I had expected some critical response, the original article was by no means intended to challenge the engineering function in aircraft design (and certainly not TWA specifically as Mr. Spannuth seems to be implying by his repeated references to his company and its policies). Rather, I was attempting to point out that really good interior design—as distinguished from interior decoration—depends on close cooperation among designer, engineers, passenger service, sales, advertising and marketing departments from the very outset—or drawing board stage—of putting a new passenger airliner together.

All in all, after reading and rereading Mr. Spannuth's letter, I get the feeling that we're both talking about the same thing in so many different words.

CHARLES BUTLER
President
Charles Butler Associates.
New York, N.Y.

Riddle Liked CAB Story

To the Editor,

I have received the first copy of *AIRLIFT* and have read it with a great deal of interest. You are to be congratulated on the format of this new magazine.

One of the articles which was of extreme interest was that written by Mr. William V. Henzey, "Will CAB's 'Blank Checks' Bounce?" Some of the points set forth by Mr. Henzey strike home with Riddle Airlines' operations. It certainly is hoped that at some time the Board will realize the problems that are being generated by the overlapping authorities resultant from the decisions of individual cases without taking into account the overall growth of the airlines. Riddle, of course, feels this primarily through the discrimination of the limitation which confines their operations specifically to cargo. On the other hand, they must compete with the combination carrier who has the advantage of both passengers and property. We all trust the hearing on the Domestic Cargo-Mail Service Case will clarify many of these discrepancies.

GEORGE L. GILES
President
Riddle Airlines Inc.
Miami, Fla.

Orcids to AIRLIFT

To the Editor:

The aviation world has long had a requirement for a magazine devoted exclusively to airlift. *AIRLIFT*, as did its predecessor *AMERICAN AVIATION* will continue to keep the military, as well as the general public, informed of the latest advances in the field of air transportation.

May I take this opportunity to wish you

and the *AIRLIFT* staff success in your latest venture.

THOMAS D. WHITE
Chief of Staff
U.S. Air Force
Washington, D.C.

To the Editor:

I am an airline pilot with Pan American World Airways now in my fourteenth year flying internationally, and have been associated with aviation for nineteen years. In the same mail arriving in Washington with this letter, I am forwarding a three-year subscription to *AIRLIFT*. Formerly, I read *American Aviation* where I could find it, but now feel it a "must" to receive it regularly. Congratulations on the New Look!

RAY J. EGAN
116 Morgan Street
Holyoke, Mass.

To the Editor:

I have read *AIRLIFT* and I don't regret one bit losing the name *American Aviation*. *AIRLIFT* is a dynamic name for a dynamic age. The new format is pleasing and I am very glad to see the frequency on a once-a-month basis—I'm sure that persons like myself who are swamped with reading matter can appreciate this. Since it comes once a month instead of twice a month, I feel that I can devote more time to reading *AIRLIFT*, thus my reading enjoyment is increased. In short, *AIRLIFT* is a welcome change!

DONALD TEMPLETON
Chattanooga, Tenn.

To the Editor:

I have just had a chance to go over the Tenth Annual Air Transport Progress Issue (*AIRLIFT*, May 1959) and I want to congratulate you on the excellent job you have done.

The industry appreciates the fact that for 10 years now you have been using the official publication of the Air Transport Association of America as an insert in your publications. We are well aware of the value of the extra circulation obtained.

STUART G. TIPTON, President
Air Transport Association
Washington, D.C.

To the Editor:

I have read *AMERICAN AVIATION* for many years, as have those associated with me, and we have always found it an interesting and informative source. Judging from this issue of *AIRLIFT*, the tradition will be carried on.

We feel that your choice of a new name is a happy one. "Airlift," which began with and has become synonymous with the Berlin Airlift, is a word which is relatively young in the language, but one which reflects the ever-growing importance of air transport in our changing world.

The best of luck to *AIRLIFT* and to all on the staff. We will be looking forward to each new issue.

LT. GEN. WILLIAM H. TURNER
Commander, MATS
Scott AFB, Ill.

To the Editor:

I read my copy of *AIRLIFT* with great pleasure. As you can imagine, I could not be without your publication in my effort to keep STEVE CANYON as authentic as possible. . . .

MILTON CANIFF
New York City

To the Editor:

Congratulations on debut of *AIRLIFT*. High air news content in a most readable form and the high caliber of reporting and writing carries on the traditions of American Aviation. All at Seaboard & Western look forward to many successful years for *AIRLIFT*.

RAYMOND A. NORDEN
President
Seaboard & Western Airlines
New York, N.Y.

To the Editor:

We here at Transport Division have devoured the first copy of *AIRLIFT* from cover to cover. Our consensus . . . "terrific!"

It is just the type of publication we need, and the people along our "airline row" here at Renton have had similar comments.

I just had a guided tour through the new Braniff maintenance base in Dallas, and found your story on this beautiful new layout most helpful. The people down there were mighty happy with the nice spread you had given them, incidentally.

GORDON S. WILLIAMS,
Public Relations Mgr.
Boeing Airplane Co., Transport Div.
Renton, Washington

To the Editor:

While I will miss American Aviation after many years of readership, your new *AIRLIFT* with its full coverage devoted to air transportation is a most welcome successor. Congratulations on your continued high level of editorial content.

WARD D. DAVIS
President
The Dalto Co.
New York, N.Y.

To the Editor:

I've just finished reading the new *AIRLIFT* with pleasure and profit. Your concept of covering air transport, civilian and military, as one field is most logical and worthwhile.

May I congratulate you on the excellent format and typography of *AIRLIFT*. It's not only well worth reading—it's easy to read as well.

C. B. WHITEHEAD,
Col., USAF, Director,
Office of Information Services
Hickam AFB, Oahu, Hawaii

CORRECTION

The chart on page 48 (May, *AIRLIFT*) shows Flying Tiger's 1958 air freight traffic declining from 83.0 million ton miles in 1957 to 68.4. Actually, the opposite is true. In 1957, FTL flew 58.1 million ton miles, so 1958 traffic at 68.4 represents a gain of 17.7% rather than a loss. Inadvertently 1957 system freight ton miles were compared with 1958 domestic freight ton miles.

To the Editor:

The new *AIRLIFT* fills a great need for the many people throughout the world who are interested in this subject.

I am particularly pleased to note the concentration on military and commercial air transportation and the continuation of American Aviation's high standards of accurate reporting.

We are highly gratified to note the story on the LAS Flight Recorder.

Congratulations and good luck.

T. T. HINMAN, GEN. SALES MGR.
Lockheed Aircraft Service, Inc.
Ontario, California

To the Editor:

We were very pleased to see the story entitled "Helicopters Make Big Bid to Grab Share of Traffic" in the first issue of *AIRLIFT* magazine.

We would like to order 3,000 two-color reprints of this story using the new format of *AIRLIFT* magazine. Your attention to this order will be appreciated.

C. E. LISKE
Vice President, Traffic & Sales
Chicago Helicopter Airways, Inc.

To the Editor:

Congratulations on *AIRLIFT*. It certainly is progressing with the times. Incidentally, it was a pleasure to see the very fine article on CHA's helicopter service in your first issue, and it is hoped that this represents not only a new but a continued trend.

ROBERT P. HUBLEY,
Passenger Traffic Mgr.
Los Angeles Airways, Inc.
Los Angeles, California

To the Editor:

I hope it is not too late to say that the first impression is an excellent one. The new concept and the monthly format provide an opportunity for the deeper and more thoughtful analysis which the increasingly complicated problems of air transport require. The name may be changed, but it is good to see that the idea of real service to the industry carries on.

S. RALPH COHEN
Public Relations Officer
International Air Transport Assn.
Montreal, Canada

To the Editor:

Congratulations on your first two issues of *AIRLIFT* which in appearance and general format are first-class. I especially like the April edition because of pages 40 and 41. I think that Captain Byron Moe has certainly done us proud in his appreciation.

C. G. HOLLOWELL,
Public Relations Mgr.
D. Napier and Son Limited
London, England

To the Editor:

I thought the new cover for *AIRLIFT* was most attractive and I am sure that the wonderful job that you all have been doing shall continue in every publication of *AIRLIFT*.

ARCHIE D. YAWN
General Sales Manager
Southern Airways, Incorporated
Atlanta, Ga.

To the Editor:

Permit me to extend my compliments on your April issue of *AIRLIFT*.

After reading this issue, I feel that you have done a splendid job of revising and adding much pertinent information.

For one who works in the "business," this is an excellent way of keeping abreast of the current events. Good news also on the change to a monthly publication—makes it a little easier to keep caught up on necessary reading matter. Don't forget equal billing for international carriers in contrast to domestic carriers.

Best wishes for your continued success.

R. L. BECKER
Regional Personnel Representative
Scandinavian Airlines System
Beverly Hills, Calif.

When & Where

JUNE

June 4-5—Institute of Radio Engineers, third national conference, Villa Hotel, San Mateo, Calif.

June 5-6—Reading Aviation Service, Inc., 10th annual maintenance & operations meeting, Reading, Pa.

June 9—ATA board of directors meeting, ATA conference room, 1000 Connecticut Ave., N.W., Washington, D.C.

June 12-21—International Air Show, Le Bourget, Paris.

June 16—Aeronautical Radio, Inc., bd. of directors meeting and ARINC Research Corp. directors meeting, Washington, D.C.

June 16—International Civil Aviation Organization, 12th Session of General Assembly, San Diego.

June 16-19—Institute of Aeronautical Sciences, national summer meeting, Ambassador Hotel, Los Angeles.

June 17-18—American Society of Mechanical Engineers, Aviation Div., Chase-Park Plaza Hotel, St. Louis, Mo.

June 23-25—Aviation Distributors and Manufacturers Association, 33d meeting, St. Francis Hotel, San Francisco.

June 26—Helicopter Congress demonstrations, Bonn, West Germany.

JULY

July 14-15—Airlines Electronic Engineering Committee, Ambassador Hotel, Los Angeles, Calif.

July 16-17—Radio Technical Commission for Aeronautics Assembly, Ambassador Hotel, Los Angeles, Calif.

July 28-30—Air Cargo, Inc. annual airfreight carriage convention, Chicago, Ill.

July 28-31—Association of Local and Territorial Airlines, quarterly regional meeting, Anchorage and Fairbanks, Alaska.

AUGUST

Aug. 31-Sept. 5—International Astronautical Federation, 10th annual congress, Church House, Westminster, London.

SEPTEMBER

Sept. 3-6—Air Force Assn. Convention and Panorama, Miami Beach, Fla. (Make reservations with AFA Housing Bureau, P. O. Box 1500, Miami Beach, Fla.)

Sept. 5—Federal Aviation Commission assembly, Swiss Transport House, Lucerne, Switzerland.

Sept. 7-13—Society of British Aircraft Constructors, annual flying display and exhibition, Farnborough, Hants, England.

Sept. 14-19—International Agricultural Aviation Conference, College of Aeroneautics, Cranfield, England.

Sept. 30-Oct. 2—Southeastern Airport Managers Association, Durham, N.C.

OCTOBER

Oct. 5-10—Society of Automotive Engineers, national aerodynamics meeting, aircraft manufacturing forum and aircraft engineering display, The Ambassador Hotel, Los Angeles.

Oct. 7-10—Air Traffic Control Association, annual meeting, Biltmore Hotel, Oklahoma City.

Oct. 10-15—National Association of State Aviation Officials, 28th annual meeting, Mark Hopkins Hotel, San Francisco.

Oct. 12—International Air Transport Association, 15th annual general meeting, Tokyo.

Oct. 12-14—National Association of State Aviation Officials, Mark Hopkins Hotel, San Francisco.

Oct. 20-22—Air Transport Association of America, engineering and maintenance annual meeting, Hotel Monteleone, New Orleans.

NOVEMBER

Nov. 18-19—Airlines Electronic Engineering Committee, Hotel Statler, Dallas.

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Don't Bet on Politicians for CAB

Those two major CAB changes are still scheduled for early summer. White House is anxious to get confirmation before Congress adjourns. Outgoing are Chairman James R. Durfee, who will get a federal judgeship, and Harmar Denny, 72, who will retire to his Pittsburgh home. And here's a tip: don't place any bets on job-hunting politicians. Appointments (for a change) will be men with transportation and financial know-how.

Business is Booming on North Atlantic

Domestic trunks' traffic dipped slightly in April. Passenger-miles totaled 2.25 billion, down 1.8% from March but a substantial 10.8% ahead of same 1958 month. Available seat-miles of 3.71 billion were off 2.2% from March, up 9.4% from 1958.

MATS Plan Boomerangs

North Atlantic business boomed in the first quarter. Passenger traffic gained 19.9% to 190,894, cargo tonnage rose 30.3%, mail was 15% ahead of last year. Gains are attributed to recovery from the recession, impetus of new economy class expansion of jet service. Almost 65% of passengers traveled economy service.

Under prodding by Administrator Quesada, FAA is going all-out with maximum fines for carriers and pilots on safety violations. But FAA isn't letting the military off easy, either. Watch for stringent action against USAF for violations.

Mexico Considers a Consortium

MATS isn't being very smart in the way it's trying to stave off giving up traffic to airlines. One amazing thing it did recently was to state in contract specs that seats be 15 inches wide. Industry figure is 14½ inches. By asking for a half-inch difference, MATS thought it could then throw out all commercial bids. The plan caught up and has boomeranged.

Northrop Corp. is in top running with studies on air cargo plane designs and performance. FAA is much impressed with facts, figures and ideas.

Airways Program Off Schedule

Mexico is considering a consortium for all its international carriers, with government as part owner. Highly rated is the new civil aviation director, Ing. Alberto Acuna, formerly with Radio Aeronautica Mexicana, the Arinc of Mexico. Currently Mexican airlines are sales targets for a raft of U.S. airplane salesmen, each trying to sign up jet or turboprop orders. Meantime, Scandinavian Airlines System, which has a management contract for operating Aerovias Guest, has lost no time reshuffling personnel and reorganizing the line.

There are squawks from private operators at Youngstown, O., Airport about Air Defense Command practicing landings and takeoffs with F-102s, often without contacting the tower. Quite a few near misses, it's reported.

Airways program was on schedule until set back by House Independent Offices Appropriations subcommittee, which slashed FAA budget request. Reason: non-familiarity with intricacies of staging facilities and personnel for five-year airways modernization. Big hope: Senate stalwarts, such as Magnuson and Monroney, will keep program on its original schedule.

Insiders report the self-promotional efforts of a trio of officers are undermining the strength of Air Traffic Control Association. Their prediction: unless members reaffirm support of capable executive director Stan Seltzer, the fledgling organization faces stormy weather ahead.

FAA Employment May Top 35,000

There are 5,000 unfilled jobs at FAA, and funds have been requested that will create another 5,000 vacancies. Agency had 27,445 employes on Feb. 28, will have over 35,000 if money is forthcoming. Nearly half will be in air traffic control, including 7,000 air route traffic controllers.

Big problem in the transition to jets and turboprops: keeping piston operating standards where they belong. One major trunk experienced three-fold increase in engine failures in one month this year over same 1958 period.

Unique Deal on Jet Ground Equipment

Significant and unique development: United Air Lines licensed Hardman Tool and Engineering Co., Los Angeles, to act as manufacturing and sales agency for all ground handling, maintenance and overhaul, and baggage and cargo equipment developed by UAL. Thus, other jet airlines can buy any of 32 items from Hardman, and UAL will get some return on its investment.



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NEWS HIGHLIGHTS

4 Airlines Form Europair

Four European airlines—Air France, Sabena, Lufthansa and Alitalia—have agreed to merge their service and sales organizations into Europair to meet U.S. jet competition. Europair operations will include all international routes now operated individually, except those within the French commonwealth. A provisional secretariat will be located in Paris.

Under the plan, the carriers' long-range aim will be for the following division of the total Europair traffic output: Air France, 34%; Lufthansa, 30%; Alitalia, 26%; Sabena, 10%.

The four lines decided to proceed without KLM, which dropped out of negotiations. One reported reason for KLM's decision to withdraw was that Air France and Lufthansa were determined to have the major roles in any joint operations.

FAA Takes Over Airspace Control

An historic milestone was passed last month when the Federal Aviation Agency assumed complete authority over all airspace matters. The change, which takes the Air Coordinating Committee completely out of the picture, was not made without strong military opposition.

FAA has organized a special staff to deal with airspace problems and to develop policies. A new regulation, Part 409, tells interested parties how to proceed in making requests for use of airspace and how to submit their views in connection with airspace cases.

Air Express Dilemma

Air express business reached a record high in the first quarter, with tonnage up 20%, but the airlines are in the ironical situation of not knowing with whom to negotiate a new express contract. Reason: ownership of Railway Express Agency is still unsettled.

REA directors have recommended that the express business be continued under railroad ownership (Lehman Brothers, New York investment firm, had offered to buy the agency) with an amended and improved operating agreement. The 178 rail lines were to act on the recommendation by June 2. Unanimous vote is required. Airlines have three alternatives: negotiate a new contract with REA when its future is clarified, negotiate with an agency other than REA but similar to it, or form an airline-owned group. The airlines for the first time have established a committee which will negotiate for all of them. REA now has individual contracts with carriers.

Maytag Blasts CAB

One of the strongest criticisms of CAB by an airline president was made by Lewis B. Maytag Jr., head of Frontier Airlines, who charged that in the eyes of the Board "efficiency is a sign of poor management." The most profitable way to operate a local service line is to "run expenses up while on a temporary subsidy rate," then cut expenses and increase profits when the rate is made permanent, he told Aviation Writers Association. CAB has given the locals new routes, but some are "unprofitable hand-me-downs" no longer wanted by the trunks, he said, predicting that locals' subsidy will reach \$100 mil-

lion a year within five years. As a result of CAB's "very rigid" accounting requirements, Frontier keeps two sets of books—"one for the Board and one to tell how we were doing in the business."

Emery Sees Tenfold Freight Growth

The role of air freight in cargo transportation will be increased tenfold within the next five years, John C. Emery Jr., vice president of Emery Air Freight Corp., predicted (see p. 23). Within five years, greater use of jet cargo service will further reduce the size of the U.S., in terms of surface transit times, to an area only 175 by 125 miles, or roughly the size of the state of West Virginia. He said more firms are using air freight as a marketing tool.

Grumman Gulfstream Certificated

The turboprop Gulfstream, Grumman Aircraft Engineering Corp.'s entry in the business flying market, has been certificated by FAA. Grumman has 40 orders for the 10 to 12-place corporate plane, expects to have 27 produced by yearend. Powered by two Rolls-Royce Darts, the Gulfstream's cruising speed will be 357 mph at 25,000 ft. Distributors are Pacific Airmotive, Burbank, Calif.; Southwest Airmotive, Dallas, Tex.; Atlantic Aviation, Wilmington, Del.; Timmins Aviation, Montreal, Canada.

U.S. Eases Export Controls

State Dept. on June 1 removed civil aircraft and equipment from the U.S. Munitions List, and export controls over these items will be handled by Commerce Dept.'s Bureau of Foreign Commerce. Export of military planes and equipment remains under State's licensing authority.

FAA Hits Noise Reduction Rules

Regardless of airport regulations, FAA's Bureau of Standards has made it clear that airline jet operating procedures designed to reduce noise cannot be allowed to weaken safety. Its first strong stand on the subject came in a letter to American Airlines ordering removal of minimum-sound takeoff procedures from pilot manuals.

FAA's point: pilots were trained for one operating procedure and the minimum noise operation calls for another. It told AA that no airport management is permitted to impose any procedure that may detract from safe operation. Port of New York Authority had claimed recently that AA was failing to comply with Idlewild anti-noise restrictions. PNYA also said it is adopting a new noise measurement. Previously, flights had to attain minimum altitude of 1200 ft. before reaching populated areas. Now jet takeoffs will only be permitted if noise level ceiling of 112 decibels, measured on the ground in the communities, will not be exceeded.

GE Reveals New Turbofan

A turbofan engine producing 7,000 lbs. to 9,000 lbs. thrust and designed to fill powerplant desires expressed by Boeing and Douglas has been announced by General Electric Co. Called the CJ-810, the engine, available for 1962 service, is being developed for short-to-medium range transports such as Boeing's 727 and the Douglas DC-9 (Airlift, April). Other engine proposals are expected.

NEWS HIGHLIGHTS

Airport Planning Study Starts

A contract to establish guidelines for future airport planning and development will be awarded shortly by FAA. Object is to obtain "complete and scientifically sound criteria for establishing optimum airport configuration for different classes of airports and for given traffic densities." To determine factors which establish the traffic-handling capability of an airport, the study will cover operations at 12 fields—four intercontinental, four continental, two local and two trunk.

Air Merchant Marine Urged

MATS should get out of the airline business, and the U.S. should build an air merchant marine capable of meeting the country's needs in war or other emergency, Rep. Charles O. Porter (D-Ore.) told the House (see cargo story, p. 23). He said his survey of all the airlines showed that the carriers have more than 1,323 million ton-miles of cargo capacity that can be used by the Defense Dept.—"enough to carry all the passengers and cargo now carried on MATS."

Meanwhile, MATS promised a House subcommittee policy changes that would (1) raise from 2% to 10% planned fiscal 1960 commercial cargo augmentation, and earmarking 40% to 45% in the passenger category, (2) grant civil lines routine logistic traffic, (3) reduce MATS flying time to five hours daily per plane, (4) raise from \$54 million to \$70 million the funds earmarked for commercial flights.

French to Produce J75

United Aircraft Corp. has closed a deal under which the Pratt & Whitney J75 turbojet engine will be produced in France under a license agreement. The French will use the engine in the Mirage IV Mach 2 bomber.

AIA, ALTA Change Names

Aircraft Industries Association is changing its name to Aerospace Industries Association to reflect the changing nature of work being performed by the industry, AIA president Orval Cook announced.

Association of Local and Territorial Airlines is switching to Association of Local Transport Airlines "in recognition of the fact that Alaska and Hawaii are changing their territorial status to statehood."

PAA Studies Cargo Jet

Pan American World Airways hopes soon to "initiate a volume cargo program" which would provide jobs for employees displaced by jet passenger service and provide the U.S. with a "military reserve fleet of . . . cargo jets of intercontinental range," president Juan Trippe said. Talks have been held with government officials and aircraft manufacturers, he stated.

DC-8 Damaged

The number two Douglas DC-8, piloted by FAA flight test engineer J. J. Tymczyszyn, failed to flare and was severely damaged in a landing during high rate-of-sink speed testing. Impact broke off No. 1 engine and blew the

main gear tires, but the gear did not collapse. The fuselage buckled and the entire aft section bent to the ground. There was no fire. Repairs may take six weeks.

Trunks Report Record Revenues

A record \$440 million in operating revenues were reported by domestic trunklines for the first 1959 quarter. Net profit after taxes was \$4.9 million, despite January strikes. In the same 1958 period, net loss was \$5.2 million on \$351 million revenues.

Helicopter Traffic Booms

Explosive traffic growth is taking place at Chicago Helicopter Airways. The company averaged 319.8 passengers daily in March for a total of 9,915; April average was 444.8, with total of 13,345. Early May figures indicated a possible 17,000 for the month. On May 8, CHA carried 800 passengers, a record daily high.

TWA Signs First CRAF Contract

Although the Civil Reserve Air Fleet plan has been in existence several years, the first contract for use of airline planes in time of war has just been signed. It covers 35 of TWA's piston-engined planes, which will be replaced in 1961 by jets. TWA will also provide support for CRAF planes of other airlines at certain overseas air bases.

Locals Split on Subsidy Plan

Nine out of 13 local service lines endorsed a CAB proposal covering a new method of paying subsidy. Pacific Air Lines was the one carrier favoring the present system. Central, Mohawk and West Coast endorsed objectives of the CAB plan but questioned whether one formula for all carriers would do the job. CAB will consolidate the suggestions into a single working document and recirculate it for comment.

New Routes Awarded

Allegheny Airlines and Mohawk Airlines will get new routes, according to CAB's press release decision in the Northeastern States Area Investigation. Principal award to Allegheny is a Washington-Boston route via 11 intermediates, while Mohawk is extended to Cleveland from Syracuse and Utica-Rome.

Strike Aid Pact Approved

The mutual aid strike pact signed by six airlines was approved by CAB, providing the carriers delete a clause in which they agree that if they are struck they will route traffic to other signers. Member G. Joseph Minetti dissented. Signers were American, Pan Am, Capital, TWA, Eastern and United.

CAB Gets Aero Commander

CAB traded in its old DC-3 for an Aero Commander, now has 130 hrs. on the new plane and is using it for transportation to accident locations, pilot proficiency checks and flying CAB members to meetings. Trade-in was even—\$91,289 was the price set for each. Board says it needs more planes but Congress isn't likely to okay any very soon.



HOW BIG WILL THE JET PROBLEM BE?

Pretty big.

And every airline that is or will be operating jets in the next few years knows it. They also know that how they explain their jets to people may very well decide their corporate futures.

They know that now's no time to oversimplify or sidestep the problem. Now's no time to sit back and set aside "take a ride in a jet" campaigns for very long. Now's no time to sell only special services or sweater stewardesses or two glasses of champagne instead of one. In short, now's no time to put the hope of the future on taking passengers away from other airlines. Because it just won't work. There won't be enough passengers to go around. *Unless* someone tackles the *real* seat problem. The problem of the living room seat. The problem

of the people who think jet airliners are merely '60 models of 7C's and Connies and Viscounts and Convairs, and who think the jet age means travel as usual with a change in engines and a little less noise.

We think we know how to approach this problem, because we started studying it three years ago when it became apparent to us that jets were going to change the way people live and think and act. When it became apparent to us that, as specialists in people's *buying* habits, and with special insight into their *travel* habits, *this was our business*.

Not long ago someone said that jets will change the airline business so much that it could well use a new name. We have one to suggest . . . ours.

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JUNE, 1959

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Each of these distributors has personnel specially trained in the servicing of Holley aircraft products and each maintains a stock of both assembled units and components of Holley compressor bleed governors and actuators. Replacement or service of these jet engine accessories is literally only minutes away from any metropolitan center.

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Movable bulkhead permits versatility in ratio of passenger-cargo space.



DC-6A cargo airliner converted to tourist seating arrangement.



Specially designed hat racks and cold air system quickly removable in sections.



Passenger windows added to cargo doors... installation of radar system, including radome.

Converting DC-6As Into Cargo-Passenger Airliners

AiResearch Aviation Service modifies to specific airline requirements

The cargo-passenger convertible DC-6A allows a change from full passenger to cargo-passenger configuration on three hours' notice, and full passenger to full cargo changeover in 24 hours. Literally three airplanes in one, it assures operators the best use of present equipment.

Modifications include installation of seats on tracks... galleys and bulkheads designed for quick and easy removal... passenger lavatories and water systems.

Other major modifications for DC-6 and DC-7 aircraft include:

- Conversion from first class to tourist seating, or combinations of the two separated by a movable bulkhead.

- Radar installation including design of system and addition of radar nose... also radio, navigation and other communication and electrical systems.

- Extended range and increased gross weight of DC-6B.

- Performance of any required Douglas Service Bulletins.

Modifications have been performed for leading airlines including American, Canadian Pacific, Pan American, Japan, Hawaiian, Swissair, Sabena and others. AiResearch's more than 150,000 square feet of floor space represent the finest conversion, modification and servicing facilities available.

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Mass Cargo Breakthrough: Soon

**Quesada, Monroney pushing new industry;
will boom manufacturers and airlines.
MATS 'airline' to be trimmed.**

By WAYNE W. PARRISH

THE LONG-AWAITED BREAKTHROUGH in big-volume air cargo is now in sight.

Just over the horizon are fleets of cargo aircraft with operating costs competitive with surface transport—and cargo business running into the billions of ton-miles.

Plans are in motion in many directions and on many fronts to develop a new industry—the transportation of goods in volume by jet and turboprop. Dreams are on their way to becoming true.

This means business to keep aircraft plants busy. It means a new market for everything from tires to radio equipment. It means big expansion of all air carriers. And a boon to the nation's commerce.

Up to now the airplane has just barely scratched the volume cargo market. The ton-miles have been insignificant. The reasons are high operating cost and type of airplane available—or both. The key to opening a really big market is not only an airplane with much lower operating costs—but an airplane designed to minimize handling and loading costs which are very high with converted passenger planes.

FAA Boss Sparks The Drive

What has been happening in the past few months is nothing short of dramatic and the one man who has done most to spark a broad-front approach is E. R. "Pete" Quesada, Administrator of the Federal Aviation Agency.

Quesada wears many hats. Perhaps his most important hat is as the chief aviation aide to President Eisenhower. And one of the problems facing the White House is the fate of the aircraft industry now that production of combat airplanes is on the decline. Missiles take up the dollar slack—but not the slack in engineering talent and plant space.

Additionally, the U.S. is greatly in need of *airlift* airplanes—airplanes that can be kept in use in peacetime, but are immediately available to the military in wartime.

Working concurrently with Quesada, and in close collaboration, is Oklahoma's progressive and aggressive Senator Mike Monroney. Congress is a vital factor in development of cargo airplanes.

How can new cargo airplanes be financed? This is always a big question in creating new markets. Quesada has come up with an answer that will mean a tremendous future for commercial carriers of all kinds, as well as manufacturers who have to get paid. That is to provide a ready market to fill the airplanes.

The Quesada answer is military cargo to start with, to be followed by development of commercial cargo with low competitive tariffs made possible by the impetus given by military business.

How does military cargo fit in? From two directions.

One source will be from MATS (Military Air Transport Service). No matter how much MATS bucks and balks, MATS is going to be trimmed down to size. It is going to be put out of the "airline business" and put back into its primary job of purely military air logistics. Congress has long opposed the existence of "the world's largest airline." But more important, so has the top level in the Pentagon. A good chunk of MATS' 100-billion-ton-miles-a-year traffic is going to get shifted to commercial carriers either directly or by contract.

The other direction is the \$100 billion dollar military inventory of supplies and parts. The supply pipe-line is very, very long and extremely costly, because it is chiefly by surface transport with depots scattered all over the world. Quesada has not gotten his commitments yet, but he's making progress and is bound to win out. The military, in all aspects, is going to turn to air for shipment of box-type or packaged supplies and parts, everything except the heavy bulk stuff and special items that can't go easily into a cargo airplane.

As Quesada explains it, everything the military does is based on commitments. So why not make commitments on air cargo? If the military sets forth commitments, industry then has something to work on—both manufacturers and carriers. Sooner or later the Pentagon must modernize its supply system—and Quesada is making real headway in getting the job started now.

As FAA Administrator, Quesada has a lot of power that never existed in the old CAA. Section 312 (b) of the Federal Aviation Act reads: "The Administrator is empowered to undertake or supervise such developmental work and service testing as tends to the creation of improved aircraft, aircraft engines, propellers and appliances. For such purposes the Administrator is empowered to make purchases (including exchange) by negotiations, or otherwise, of experimental aircraft, aircraft engines, propellers and appli-

THE TWO 'MUSTS'

There are two "musts" in the Quesada-Monroney plan for a vast air cargo expansion—and they're being worked on, says Sen. A. S. Mike Monroney (D-Okl.). They are:

1. A policy statement from the Administration that military cargo will be handled by commercial carriers, with MATS confined to being an "ever-ready strike force."

2. Legislation, possibly at this session, providing long-term government-guaranteed loans for purchase of air-freighters. Present loan law won't do—it's limited to local, territorial and helicopter lines, has a \$5 million ceiling with repayment within 10 years.

ances, which seem to offer special advantages to aeronautics." That says a lot.

Quesada would like to use NASA to help design the best cargo plane possible, one that would use boundary layer control for heavier loads and shorter take-off and landing. He believes the government can contribute greatly through this means. He also is thinking in terms of government guaranteed loans to operators with a proviso that in return for this financing aid, the carriers would be obligated to turn over the equipment to the military in time of emergency.

At the moment, Quesada sees the need for two types of cargo planes. One would be a heavy long-haul job with range of 4,000 miles—either jet or turboprop. The other would be a 1,500-mile range job capable of serving almost all airports and this would definitely be a turboprop.

By no means does Quesada believe that all manufacturers would have to compete for the government design in the event that Senator Monroney's legislative plans for government sponsorship of an aircraft be adopted. He hopes private industry can get into the business competitively with the government offering incentives of built-in military cargo as a certain market, and with guaranteed loans to operators. At low rates, commercial cargo would then begin to boom.

Meantime, the manufacturers are pushing cargo versions of their transport jets and turboprops. These are merely temporary expedients, in Quesada's opinion. What is needed is an economical cargo plane designed as such from scratch—and he is putting the full force of the executive branch of government behind the move. With Senator Monroney's plans in Congress, there is bound to be a lot of action—and soon.

Jets Pushed for Global Logistics

The talk used to be all turboprop.
Now the pitch for jets is hot and
here's what supporters say they
will do for USAF global logistics.

THE ALL TALK, NO-ACTION policy that has hamstrung development of a modern U.S. military logistics operation for the past five years may be headed for a sudden death.

As far back as 1953 it was tabbed Logistics for 1956. The turboprop was a front-runner for the big long-range job. The economics of the jet then were somewhat obscure. At best, it rated second, even in such documents as a top Pentagon report by the Rand Corp.

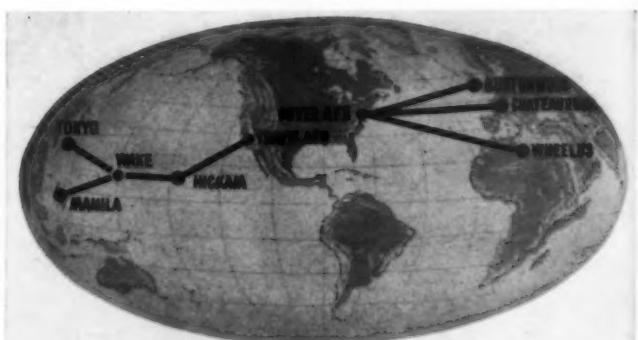
Now, a modern logistics fleet is again gaining new priority and the equipment picture too, is assuming a new look. The USAF is asking funds in fiscal '60 for 10 "C-Jets." No fewer than three key manufacturers—Douglas, Convair and Boeing—have come up with specialized cargo versions of their jet transports to snare the business.

But obscuring the significance of the final model selected is the strong pitch being made for the jet. These statistics are, to say the least, convincing and magnify the total obsolescence of the USAF logistics fleet today.

Point by point, this is the case being made for the jet by one of the contenders, Boeing Airplane Co.:

Typical Routes: On the 5,900 nautical mile military supply route from Travis AFB, the jet could carry a 45-ton payload to destination in 17 hrs. This is 2.65 times the airlift and less than one-half the time of piston transports. The turboprop falls in between, takes 28 hrs. and carries 26 tons.

For the shorter 3,300 n. mi. from Dover AFB to Chateauroux, the jet carries 40 tons, makes the trip in seven hours compared to 27 tons and 14 hrs. for the turboprop and 23 tons and 23 hrs. with piston power.



Major military routes in global logistics plan

Needs for 1962: A fleet of 32 jet transports could haul 222,000 tons a year operating the major military routes from Travis to Tokyo and Manila via Hickam AFB and Wake Is. and the segments from Dover to Burtonwood, England; Chateauroux, France and Wheelus AFB in North Africa. To handle this same airlift demand, it would require 71 turboprops or 138 piston transports.

Crew Requirements: The fast jet cuts crew requirements by some 87%. It takes 290 crew members to man the 32 jets, 640 to fly the turboprops and 2,200 to operate the 138 piston transports.

Fleet Investment: At about \$5 million per copy, the jets would involve an investment of \$160 million; 71 turboprops at the same pricetag would run \$355 million; 138 piston transports at \$1.66 million each would cost \$230 million. The grand total, a \$190 million saving for jets over turboprops, \$70 million over piston transports.

Operating Costs: On major military supply routes to Pacific and Europe/Africa, jet direct operating costs would run \$41 million per year, turboprops \$59 million and piston transports \$100 million. The saving—at least \$58 million a year over the type aircraft carrying the bulk of military supplies today. Use of turbofan engines no doubt would improve upon this economy.

Rapid Deployment: The fleet of 32 jets could deploy a Pentomic Army division of 10,700 troops and 4,300 tons of equipment to the Middle East in 6½ days. The troops could be moved in 2½ days with each flight covering the 5,400 n. mi. distance with one stop in 12.5 hrs. The same fleet could re-supply a brush-fire outbreak at the rate of 385 tons per day using an 8-hr. utilization.

Swing-Tail 707 is Boeing's Cargo Entry

Freighter version of Intercontinental would gross 308,000 lbs., carry 70,000-lb. payload. Direct cost pegged as low as 2.7¢ per ton nautical mile.

BOEING AIRPLANE CO., front-runner in both civil and military "big jet" sales, has launched its bid for the "C-jet" airfreighter market with a swing-tail version of its 707 Intercontinental.

The Seattle firm's cargo entry, identified as the Model 738, would gross 308,000 lbs., 4,000 less than the biggest version of the Intercontinental. Over-all dimensions would be identical; all that would be required is the development of a cargo floor, a big cargo door and the hinged tail. Price is being pegged at about \$5 million.

Like its competitors, Douglas and Convair, the Boeing tail swings to the side. Originally, the 738 was planned with a "swing up" tail—the simplest, most economical and best way to do the job, Boeing engineers felt. Customer preference has since changed that, however, and Boeing swings the tail to the left like the DC-8 cargo jet. The Convair 880 model hinges to the right.

Boeing contends the cargo jet could be operated at a direct cost of 2.7¢ per ton nautical mile compared to 4.9¢ realized by turboprops today. In the 500 to 1,500 n.mi. ranges, the jet's operating cost would be only 60% of the T-prop; at transatlantic ranges (3,500 n.mi.) the jet's DOC is less than 50% of the turboprop.

Maximum payload for the jet would be 100,000 lbs., but this would be reduced to about 70,000 by military loading procedures that call for a 20-in. aisle, 6-ft. high vertical loading and use of 10 lbs./cu. ft. for load estimating. Under these same restrictions, Boeing points out, the payload of the T-prop drops from 78,000 to about 45,000 lbs.

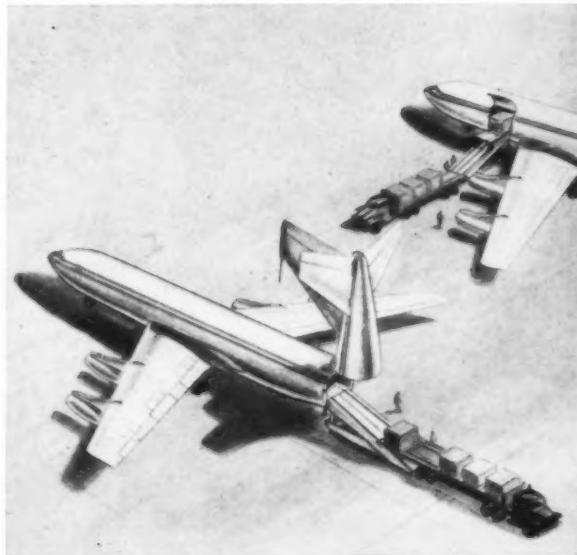
Boeing is bidding against Douglas and Convair for the USAF cargo jet business spelled out in General Operating Requirement (GOR) No. 89, but all three are eyeing the civil cargo jet potential even though the Air Force may not get Congress to go along with procurement.

Turboprop Freighters Ordered

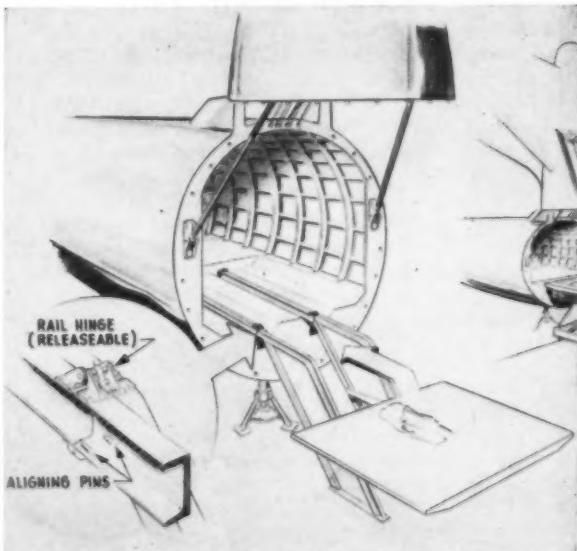
First airline orders are now placed for a long-range turboprop airfreighter—Canadair's swing-tail CL-44, claimed to have a 3.5¢ per ton-mile direct operating cost for cargo.

Flying Tiger Line is buying 10, Seaboard & Western five, and each has optioned five. Price per plane, including engines (four Rolls-Royce Tynes) and spares, is about \$.5 million. All deliveries will be in 1961. Terms: 10% down, 10% on delivery, balance over five years. Canada's Export Credit Insurance Corp. is insuring 85% of the dollar value of the orders.

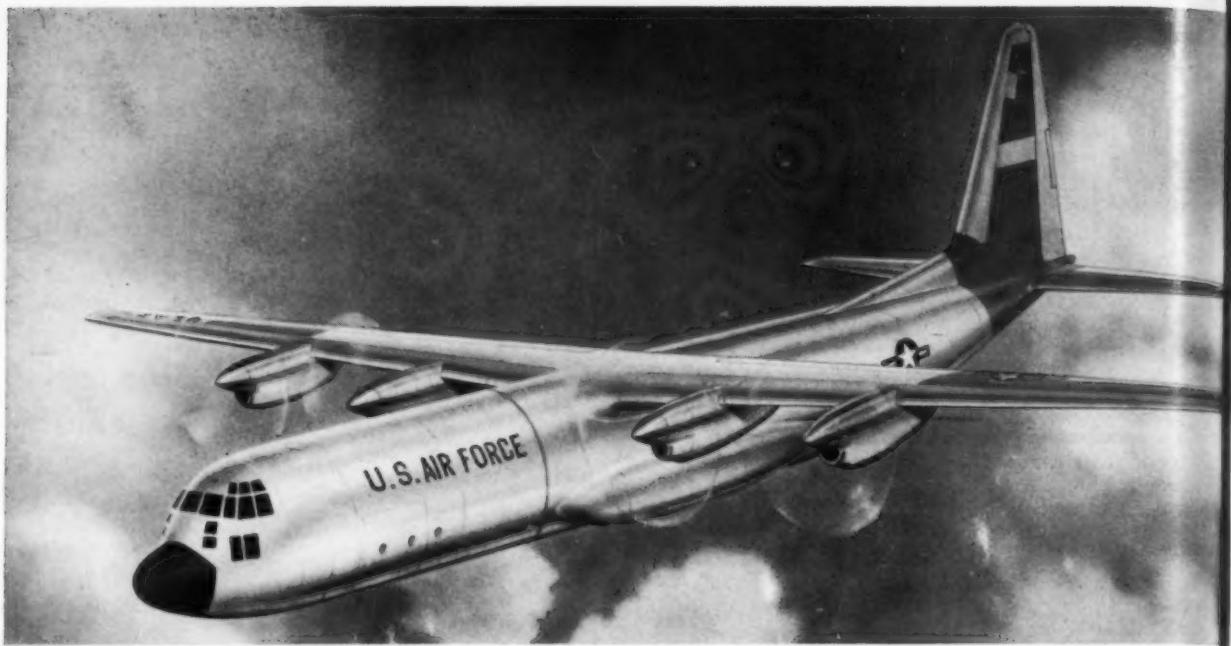
S&W is selling five Lockheed Super Constellations and spares for \$9,429,000, will lease them back until CL-44s are delivered. S&W's new planes will be financed through Airborne Carriers Inc., which will hold title.



An early sketch of Boeing jet. Swing-up tail has since given way to design that swings to left, making it identical to DC-8.



Winch-operated elevator is one proposal to solve truck-bed loading. Alternative now used by Boeing involves front-end jacking, thereby lowering tail.



Result of 100-airline survey:

Lockheed's 3.9c Per Ton-Mile Freighter

By BILL COMBS

MARIETTA, GA.—A "stretched" version of the most experienced U.S.-built turboprop, the Lockheed C-130, is the brand new contender being groomed here for low-cost military and commercial cargo roles.

The new version, called the GL-207 Super Hercules, will be 23 ft. 4 in. longer than the C-130, with 12 ft. 7 in. more wingspan. The Allison T56 engines in the C-130 will be replaced by 5,500 eshp Allison T61 turboprops driving four-blade, 16 ft. propellers. The Super Hercules will carry 120% more payload and fly 40% farther than the C-130 and will operate at costs well below 5¢ per ton-mile.

MATS and the Air Force, currently shopping for a limited number of transports, are watching development of the Super Hercules closely. USAF officials are reportedly impressed by performance of the paper airplane, and feel it may fill the bill for a SAC and Army cargo carrier.

It will be able to carry any IRBM in the missile arsenal (including Thor) and the Minuteman ICBM. As a personnel transport, the Super Hercules will hold 152 troops in bucket seats, or 105 in MATS type seats. It will accommodate 100 litters plus necessary attendants.

Prompted by more than 1½ years of unsuccessful attempts to sell a commercial version of the C-130, Lockheed carefully surveyed the airlines before fixing the Super Hercules design. More than 100 foreign and domestic cargo carriers were asked what they wanted in payload, loading, range, speed, and field lengths.

Lockheed found more than 80% of the airlines wanted truckbed loading height, and most wanted some type of end loading if it did not mean too much weight penalty. Pressurized cargo compartments were also a top choice, and

many operators asked for air conditioning and temperature control.

Range and loadwise, Lockheed found most operators require no more than 3,000 mi. range with 50,000 lbs. to 60,000 lbs. payload. One notable exception was American Airlines, which stated its next cargo airplane would have to carry 70,000 lbs.

Approximately 80% of the carriers said they wanted a 5,000 ft. runway, but most said they would settle for 6,000 ft. Few expressed interest in speeds much over 350 mph, since overnight delivery was the prime goal.

Lockheed has tried to incorporate as many of these features in the Super Hercules as possible. The airplane will have a 204,170 lbs. gross weight, and will fly 50,000 lbs. payload 3,500 n.m. or 78,000 lbs. up to 1,200 n.m. Cruise speed will be 321 kts. at 34,000 ft. and takeoff distance will be 6,200 ft. over a 50-ft. obstacle.

For extremely long missions, such as transpacific flights, payload is reduced to 20,000 lbs. using internal fuel, or 32,620 lbs. using external tanks. Four 450-gal. tanks can be mounted on wing pylons. The tanks increase the fuel load from 66,100 lbs. (10,236 gals.) to 77,770 lbs. and raise the equipped aircraft empty weight to 93,780 lbs. from 92,100 lbs.

Cargo loading will use the same mechanical handling equipment developed for the C-130. Loads will be pre-unitized on airborne pallets and backed into the cargo hold on specially-built "Low-Boy" trailers. The Super Hercules can hold 10 pallets compared to six in the C-130.

Once inside the airplane, the load is restrained vertically by a flange which runs the full length of the cargo com-



Exploded view shows amount of C-130B tooling used in the Super Hercules. Dark areas indicate new tooling required, dotted areas modified tooling, and light areas amount of original C-130B tooling.

The empennage has the same dimensions as the C-130, and the joint between the forward and center fuselage and the tail is identical.

The center wing has a new platform and will be stiffened by the integral wing tanks. Outer wing box sections are same as the C-130 with local beefing up. New leading edges will be used on the center wing because of the increased span.

Landing gear design is different from the C-130. An 8-wheel bogie replaces the 2-wheel unit on the C-130. The bogie is mounted on a cantilevered air-oil strut with a total stroke of 15 in. The Super Hercules gear retracts up and forward, unlike the C-130 main gear which retracted vertically by hydraulic screws.

A combination of ramp-pressure door is located at the juncture of the center and aft fuselage. The combination door serves two purposes. When acting as a ramp, it may be locked in position for ground loading or unloading, or it can be adjusted to truckbed height. When acting as a pressure door, it is closed in a vertical position to form a bulkhead at the aft of the cargo compartment.

In the closed position, the pressure door is sealed and locked to a pressure bulkhead and leaves the aft fuselage unpressurized. Lockheed says restricting pressurization to the crew and cargo areas saves more than 1,000 lbs. weight.

Production schedules of the Super Hercules center around development of the engines. Should the Air Force decide to cancel the T61 program, Lockheed would have to fall back on the Rolls-Royce Tyne or some advanced version of the Pratt & Whitney T34.

Under current scheduling Lockheed hopes to roll out the first Super Hercules sometime in 1961.

partment and by side flanges on each pallet. Fore and aft restraint is by remotely-actuated floor latches which engage side lugs on each pallet.

The cargo compartment has a usable volume of 7,026 cu. ft. and measures 64 ft., 7 in. long by 10 ft., 3 in. across and 9 ft., 3 in. high.

To determine operating costs of the Super Hercules, Lockheed has evaluated it against the standard ATA ton-mile formula and a modified formula which the company feels is more realistic.

The standard ATA formula is based on seven years useful life and 3,000 hrs. annual utilization. On this basis, the Super Hercules shows costs of slightly under 5¢ per ton-mile for ranges between 900 and 2,700 mi. and a minimum cost of 4.5¢ at 1,500 mi.

Using its modified formula and a flyaway factory price of \$3.5 million, Lockheed shows costs about 0.5¢ less across the board. Minimum point is at 1,500 mi. range and 3.9¢ per ton-mile. Lockheed's formula uses a 10-year depreciation with 3,750 hrs. per year utilization. The company says these figures are conservative and the airplane could be safely amortized over 15 years even higher at utilization.

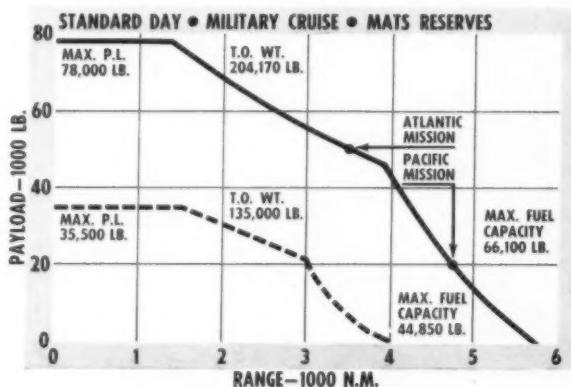
For military operations, where depreciation is not figured, the Super Hercules shows costs of about 2.6¢ per ton-mile with a purchase price based on a minimum number of airplanes. On a typical flight from Dover to Frankfurt, Lockheed says the Super Hercules would save \$800 in one-way fuel costs over the best present-day aircraft.

Figures used by Lockheed are all based on direct operating costs. Indirect costs frequently range 25% to 100% of the direct amounts.

Physically, the Super Hercules retains much of the C-130's appearance. About 25% of the basic C-130 production tooling can be used as is and an additional 35% can be modified.

The nose section is almost identical, with only minor changes to allow bird-proofing of the windshield and installation of a new nose gear.

The 280-in. addition to the fuselage is made in the center section with 120 in. forward and 160 in. aft of the wing. The added portion of the fuselage is panelized and makes maximum use of C-130 tooling.



Payload-range curves show comparison of Super Hercules with C-130B. Super Hercules curve is for 66,100 lbs. internal fuel load on Pacific mission, and 62,070 lbs. on Atlantic mission. Ferry range is 5,750 n.m. All curves are based on MATS Manual 55-1 reserves.

SUPER HERCULES SPECIFICATIONS	Atlantic Mission	Pacific Mission
TAKE-OFF WEIGHT	204,170 Lb.	178,200 Lb.
EMPTY WEIGHT (EQUIPPED)	92,100 Lb.	92,100 Lb.
MISSION RANGE	3,500 N.M.	4,800 N.M.
MISSION PAYLOAD	50,000 Lb.	20,000 Lb.
CRUISE SPEED	321 Knots	321 Knots
AVERAGE CRUISE ALTITUDE	34,000 Ft.	38,000 Ft.
TAKE-OFF DISTANCE	6,200 Ft.	4,550 Ft.
LANDING DISTANCE	3,380 Ft.	2,640 Ft.
LANDING WEIGHT	153,100 Lb.	120,280 Lb.

Avro 748: Small Turboprop With DC-3 Costs



HAWKER-SIDDELEY AVIATION'S subsidiary, A. V. Roe & Co. Ltd., is entering the DC-3 replacement field with a feeder-line turboprop called the Avro 748.

The 748, slated to fly "early in 1960," will carry 36-40 passengers or 10,000 lbs. of cargo. It will be powered by two Rolls-Royce Rda.6 engines turning Rotol propellers, with a cruising speed of 236 kts. at 20,000 ft.

Avro's big selling point will be low initial cost, low seat mile costs, and high block speeds, which the company says combine to give over-all operating costs comparable to the DC-3. It enters the competitive field now occupied by the Fairchild and Fokker (F-27) Friendship and the Handley Page Dart Herald.

Using Society of British Aircraft Constructors (SBAC) allowances, cost per seat nautical mile on the 40-seat version at a stage length of 200 n.m. is 2.08¢, or 83.4¢ per aircraft nautical mile. Block speeds, using four-minute run-up, one-minute takeoff, and five-minute approach, range from 160 kts. for 125 n.m. to 225 kts. at 1,500 n.m.

The service experience and 2,000 hrs. overhaul life of the Dart engine should help hold maintenance costs to a minimum.

The Rda.6, similar to the engine used in the 800 series Viscount, is rated at 1,600 shp, with a specific fuel consumption of 0.75. Automatic water-methanol injection will be available as an optional feature, with a range penalty of about 70 n.m., or 380 lbs. fuel.

Pressurization system of the Avro 748 will give a differential of 4.2 psi, or an equivalent of 8,000 ft. at 20,000 ft. altitude. The compressors will pump 50 lbs./min. Cabin temperature will be held at a minimum of 68°F, with ram air or optional refrigeration for cooling.

Electrical system will be 28-v dc with a secondary 115-v, 3-phase 500 cps system.

Performance of the Avro 748 is planned on the basis of SR422A. Field length required with a failed engine at

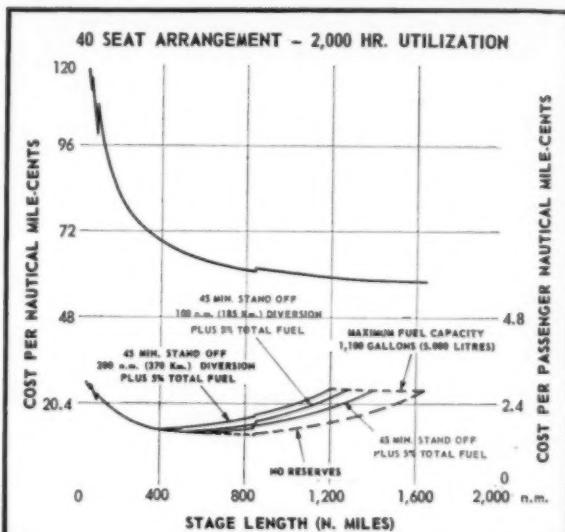


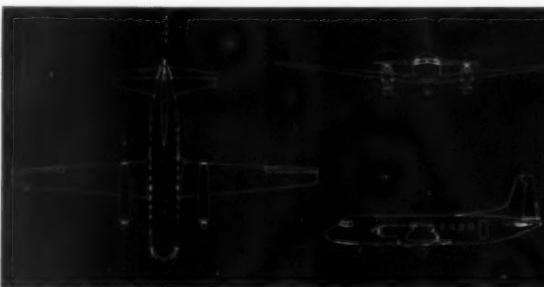
Chart shows direct operating costs of Avro 748 based on SBAC method. This includes 2,000 hr. annual utilization and 40 passenger configuration. Upper curve shows cost per aircraft nautical mile, lower curves show seat nautical miles.

maximum takeoff weight of 33,000 lbs. is 3,500 ft. at sea level standard conditions.

Designed to land at maximum takeoff weight, the 748 will come to rest in about 3,850 ft. from a height of 50 ft.

All seating in the 748 will be four abreast, with two passenger doors for quick loading. A 4 x 4½ ft. cargo door is located on the right side of the forward fuselage, and a movable bulkhead is to be provided at the front of the passenger compartment for cargo/passenger operation.

Specs on the Avro 748



Length	67 ft.
Span	95 ft.
Aspect Ratio	11.352
Max. operating weight	33,000 lb.
Max. payload (40 passengers)	9,666 lb.
Range with max. payload	580 n.m.
Cruising speed at max. recommended power	230 kts.
Cruise Altitude	20,000 ft.
Airport performance (I.S.A., sea level)	
Takeoff balanced field length	3,500 ft.
Takeoff distance to 35 ft.	2,520 ft.
Landing distance from 50 ft.	2,310 ft.
Powerplant	
Fuel	Rolls-Royce Dart Mk. 514
Pressurization	Kerosene 8,000 ft. cabin at 20,000 ft.

Can Airlines Tap Bus-Auto Market?

By WALTER STERNBERG

NATIONAL AIRLINES has introduced a fare lower than bus fare and four other airlines have followed.

Can this low 3.21¢-per-mile rate pay off? Is National's plan a means by which the airlines can penetrate the bus market?

The answer is a very qualified "yes." What National is really after is the private automobile market. To tap this market National believes it must first prove it can outdo the buses. It is making progress in its three-nights-a-week scheme. Next it will go after the auto market with a sales pitch based on dollar-and-cent experience.

Walter Sternberg, National's senior v.p. traffic, sales and public relations, a veteran in the industry who has pioneered before, explains his philosophy and plans:

ALMOST 10 YEARS AGO, National Airlines set out to whip a serious problem . . . the fact that no common carrier serving Florida had ever operated in the black during the summer months, except for the war years. The solution was the "Millionaire's Vacation on a Piggy Bank Budget"—the objective was to produce enough summer business to carry the equipment needed for winter peaks and potential profits.

The effort was spectacularly successful. As other carriers and tourist interests lent their support, passenger miles to and from Florida skyrocketed, new and larger aircraft were added by all carriers, competitive routes were awarded.

But the solution of the seasonal problem created a new one. People traveling on a holiday desire—or demand—weekend reservations. This is particularly true on the return trip. They want to stay in the sun, and in the fun right up to the last minute and be back at work first thing Monday morning. So if anything like adequate space is to be provided for the weekend peaks, again we have an "off-season" problem. Only this time the off-season is Monday, Tuesday and Wednesday . . . and perhaps Thursday.

The Florida traffic breaks down this way: 82% arriving in private automobiles, 13% arriving by air, 5% shared by the bus and rail lines. Obviously, the place to go for the needed new business is to the private automobile market. Any reduction in fare will generate some additional traffic, but spectacular traffic gains are best assured when the reduction is used as a means to develop a new market.

We're out to use this experimental night coach fare in what is probably the first well-planned comprehensive campaign to penetrate the private automobile market. There are reasons why I think this will work, and also why the results, whatever they may be, may not necessarily be indicative of comparable opportunities in other parts of the country.

First of all, National . . . serving Florida from the northeast and Gulf coast areas has a distinct mileage advantage



Sternberg

over surface transportation, including the automobile. The New York-Miami nonstop flight, which passes 160 miles east of Jacksonville over the Atlantic ocean, cuts 243 miles off the shortest automobile route. Similarly, the Houston-Tampa and New Orleans-Tampa trans-Gulf flights do it in 157 miles less than is possible by private car, so the cost comparison makes air transportation look good. Motel savings, food en route, turnpike and bridge tolls, etc. will more than pay the cost of a rental car.

Second: The biggest single identifiable group which should look to a travel agent for transportation and vacation accommodations is the 85% of the vacationing families who travel in the family car . . . noncommissionable travel. Now with the powerfully low rate, plus a newly adopted Air Traffic Conference resolution making the sale of round-trip or open-jaw transportation, three days prepaid automobile rental, and two nights open orders for hotel or motel accommodations commissionable as an all-expense advertised air tour at 10%, the travel agents have every reason to enthusiastically help develop this new market.

Third: Enthusiastic support of this fly-drive effort by Florida's Hotel and restaurant owners, sightseeing operators, all tourist interests, etc. is assured, because the five or six days which might be spent en route driving to or from Florida can, with the fly-and-drive concept, be spent in the state, substantially raising the tourist expenditures.

Fourth: Many people who would like to spend a two-week family vacation in Florida do not want to limit it to a week and lose the other week driving to and from. With the fly-drive concept permitting a family to pick up a rental car in one Florida city and leave it in any other, the family can, if they wish, spend 15 days driving through Florida.

In the three weeks in which these fares have been offered, for example, \$35.10 New York-Miami . . . 25¢ less than the bus fare of \$35.35, average night coach load factors on Monday, Tuesday and Wednesday were 25 points above the load factors we had last year. In terms of volume, the fare has doubled the passenger miles flown in night coach flights on Monday, Tuesday and Wednesday, and since the day coach load factor and revenue passenger miles on these days are also above last year, we see no evidence of diversion as a result of these creative fares.

We think the advocates of tariff simplicity make a lot of sense. Theoretically, it would be fine to have just one lowest possible fare available to all customers. But our experience has certainly indicated that the greatest creative traffic achievement is accomplished by a pricing approach to the particular need of a given market potential. That's our concept in regard to the experimental Thriftair Fare. Although we don't think that this fare, with a yield at about 3.21¢, would be economic on an all-week, day and night basis, we do think that what we learn from, and accomplish with, this experimental traffic will result in future rates which will enable us to continue penetration of the private automobile market and create new airline business.

He wars with governments . . . and wins. He refuses to take No for an answer. This is the background of a rising air transport star. Meet . . .

Australia's Dynamo, R. M. Ansett

By R. N. HUGHES-JONES

WHEN AUSTRALIANS CONTEMPLATE a flight anywhere on the nation's 4,000 miles of main trunk routes, they have a choice of two airlines—one run by their government and the other by a lean dynamo of a man, 50-year-old visionary Reginald Myles Ansett.

In less than 30 years Ansett has rocketed from a struggling owner-driver of a country road passenger service to mastery of a major airline, Australia's biggest network of bus routes, a chain of 30 tourist hotels, booming interstate road express services catering separately for both passengers and freight, and two "tropical paradise" type Great Barrier Reef islands.

From his earliest days Ansett has warred with governments, both Federal and State. He has virtually told them to go to Hades—and they have gone.

His first clash with the powers that be came in his early 20s. At 22, with 10 shillings in his pocket and a second-hand Studebaker, he had opened a passenger car service at the town of Hamilton, Victoria, because it "radiated roads like spokes of a wheel." For nearly a year he drove the old car the 400-mile roundtrip between Hamilton and Melbourne daily for six days a week, servicing the car at night and on Sundays.

12 Cars And A Plane

After a year he had enough money for a second car, and he hired a driver. This development went on for several years. The cars were driven until the metal ached. By the end of 1934 there were 12 cars and a light plane which Ansett himself piloted on visits to outlying offices and in which he sold Sunday joy rides.

With all this development, Ansett made great inroads on the revenue of the state-owned railways and his license to operate from Hamilton to Melbourne was withdrawn. He countered the government's action by purchasing a Fokker aircraft that had been used by Sir Hubert Wilkins in Polar exploration work.

With the Fokker, Ansett opened an air service between Hamilton and Melbourne, thus keeping open the vital capital city link for the passengers he carried into Hamilton on his network of road services.

It was only a matter of time before he had visions of interstate air services, and he ordered three Lockheed Electras—the original 10-passenger version. These duly arrived, but lay on the wharves while Ansett strove, through full-page newspaper advertisements, to find sufficient funds to pay for them. Finally, he mortgaged his road business and the planes were delivered.

With these machines, he operated a triangle of services between Sydney, Melbourne and Adelaide and it was said of his thoroughness and punctuality that the farmers on the routes set their watches by the planes as they flew overhead. This insistence on attention to detail has played a vital part in his success throughout his life, but perhaps the most vital factor has been his refusal throughout his career to accept "no."

During the War years, he took his Lockheed Electras off the civil routes to operate a service between Melbourne and Townsville (Queensland) for the American forces in Australia. When the time came to return to civil flying, he was refused licenses. He fought the issue so strenuously and won support from so many members of Parliament that before long the Director-General of Civil Aviation, Sir Daniel McVey, held up his hands with the plea "Please don't carry the matter any further. We will find you routes somehow." In days his machines were flying over much of the ground so familiar to them in the pre-war years.

His only competitor then was Australian National Airways, controlled by Ivan Holyman, but a Labor government, bent on socialization, stepped in with legislation designed to take over all interstate air services.

Ansett joined with Holyman to fight the matter and the courts ruled that the legislation contravened the constitution. The government then established its own airline, Trans-Australia Airlines.

The picture was that there were then two major airlines, ANA and TAA, with Ansett a third and very minor operator. The time came when the two big airlines, to meet rising costs, wanted to increase their fares. Ansett refused to fall into line. He was threatened by the government that

THE EQUIPMENT PICTURE

Ansett-ANA	Trans-Australia Airlines
2 DC-4S	18 DC-35
4 DC-4S	4 DC-4S
2 Lockheed Electras	2 Convair 240S
4 Viscount Mark IIS	4 DH Drovers
2 Super Viscounts (one already delivered and one due for early delivery)	13 Viscount 700 Series
12 DC-3S	2 Viscount 800 Series
2 DC-4S	3 Hiller Helicopters
3 Convair Metropolitans	
3 Bristol Freighters	
1 Bell Helicopter	
2 Sycamore Helicopters	
ON ORDER	ON ORDER
6 Fokker Friendships Application made for a third Lockheed Electra	12 Fokker Friendships (first delivered in April and balance this year) 2 Lockheed Electras (delivery expected from July to September) Application made for import license covering two more Viscount 800 series



Ansett flew to Fiji to meet first Electra.

he would be banned from all Commonwealth aerodromes unless he did. He fought and won. One of his prize possessions today is a framed cartoon that appeared in a Sydney paper depicting a frenzied Minister tearing his hair and poring through a statute book to find "a law against being more efficient than the government."

With its control in the hands of a group of shipping companies, the big ANA ailed badly and in 1957 it faced liquidation. Ansett proved himself a commercial python by swallowing an undertaking many times his own size.

Today he is well ahead in his payment of the installments for ANA and for the first time since TAA entered the field, Ansett-ANA enjoys the advantage of being first with the latest equipment (See Table). It has taken delivery of two Electras and the first of four Viscounts of the 800 series. With these, it is making every point a winner and is providing standards of service not previously known in Australian aviation. Ansett is battling to lift his share of the market to more than 50%. It had fallen to about 44%. Today Ansett-ANA employs 3,650, only 150 shy of TAA.

Another Memorable Fight

His takeover of ANA gave him a major shareholding in Butler Air Transport, and after another memorable fight, he gained complete control of this company and of Queensland Airlines.

Something of his determination is reflected in his battle for control of Butler. He had quietly bought as many shares as he could on the market and had farmed these out to employees of his own airline. At the fateful meeting in Sydney at which his bid to take over the Butler Company was to go to a vote, Roy Butler, managing director of Butler Air Transport, was amazed by the sight of plane after plane of Ansett employees landing at Mascot with new quotas of voting "shareholders." Ansett had ferried 300 of these "shareholders" to Sydney in one of Australia's greatest airtaxis. They had been well schooled. With free lunch and a free thousand-mile return flight, he had drummed into them "When I raise my right hand—you raise yours."

At the moment Ansett is engaged in another of these spectacular battles. He has been striving for a license to extend his east coast service via Cairns into New Guinea and with the recent withdrawal of the TAA monopoly clauses from the National Airlines Act, he has won the right to enter the Northern Territory if he wishes. But TAA has not been idle and has offered to "hire out" three of the 12 Fokker Friendship propjet airliners it has on

order to the remaining independent intra-state airlines, East West (new South Wales), Guinea Airways (South Australia) and MacRobertson Miller Airlines (Western Australia).

Perturbed at the implications of this offer, Ansett has invited the three airlines to "discuss" the matter with him. Although he denies it, it is thought probable that before long, he will have on his hands another "Butler" takeover battle.

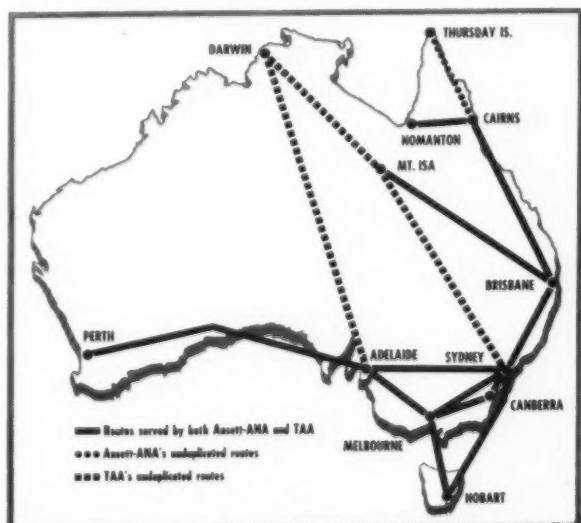
R. M. Ansett is assisted in the activities of the Ansett Transport Industries group by a team of senior executives. Ronald R. Walker, 11-year veteran, is executive director of airlines and assistant to Ansett. Richard D. Collins, also an assistant, is deputy chairman of directors of several Ansett companies and has been with the group 25 years.

John West Lau, former RAAF officer, is general manager of Ansett-ANA, and Peter Gibbes, an ANA pilot before the war, is operations manager. Jack Ellis, financial manager and secretary, was Ansett's office boy 20 years ago. Frank Pascoe worked up from assistant manager in New South Wales to commercial manager. Ian G. Webster, general sales manager, started after the war as freight superintendent.

Informal and unassuming, Ansett has immense admiration for the United States. He owns a Buick and a Cadillac, and characteristically, he drives himself hard. Usually he is last to leave his office at night and motors or flies by helicopter the 33 miles to his 90-acre farm before retiring at 10 o'clock for eight hours sleep.

In contrast to his years at Hamilton, driving has become a relaxation to him, a time when he can think undisturbed. He states that his best ideas come to him behind the wheel and he often calls members of his staff by radio telephone installed in his cars while a thought is fresh in his mind. Weekends, he likes to pitch hay on the farm. Until recently, he bred racehorses, but lacking time for first-class success, abandoned it. He declares that anything he touches must become tops or he loses interest. He still races a few horses.

R. M. Ansett must be classed as one of the world's most original thinkers, and no one is ever surprised at any new idea he may come up with. He is toying in his mind at the moment with a campaign to induce the various State governments to close down their country rail services so that he can replace these heavily losing ventures with modern bus services. Whether anything comes of the idea, time alone will tell, but Ansett thinks it is a good average if any man gets three good new ideas out of 100.



How Ansett-ANA routes compare with TAA.

Labor Speaks:

Jurisdictional Wars Hamper Airline Unions



By: **ROWLAND K. QUINN, JR.**
President, Air Line Stewards and
Stewardesses Association, International

THE POSSIBILITY OF SERIOUS jurisdictional warfare between labor unions in the airline industry became a confirmed fact in 1958 when the flight engineers struck Eastern Air Lines over the crew complement issue on jet aircraft. The strike has since been settled, but the issue has not. The matter now rests until the next round of negotiations, with an uneasy truce between the Air Line Pilots Association and the Flight Engineers International Association.

At its biennial convention in Chicago this year the board of directors of the Air Line Stewards and Stewardesses Association (an ALPA affiliate) expressed concern and dissatisfaction over the efforts of the Air Line Pilots Association to dominate the cabin attendants' association.

As these jurisdictional squabbles expand to other crafts of employes, the situation becomes critical, not only for the unions and the membership of these unions, but for airline management and the public consumer of airline services. For this reason, an objective inquiry into this question should be of interest; though the solution must be sought and implemented by the leadership of the unions involved.

The airlines are organized along the same lines as the railroads. While there are approximately 22 railroad unions, the airlines deal with about half that number. The government legislation governing collective bargaining in the airline industry is the same Act under which railroad bargaining is conducted—The Railway Labor Act. It is probably for this reason that the airlines have been organized on a craft union basis, with each of these craft unions retaining the strong autonomy which is the pronounced characteristic of American labor organizations.

In this article, I am primarily concerned with the three unions representing the different crafts which make up the air crews: the Air Line Pilots Association, representing the captain and the co-pilot; the Flight Engineers International Association, bargaining agent for the flight engineers; and the Air Line Stewards and Stewardesses Association, representing the bulk of cabin attendants in the airline industry. All three unions are well entrenched in their specific craft classification.

Now it is the position of the Air Line Pilots Association that it has under its charter with the AFL-CIO the jurisdictional rights for all three classifications. The position of the AFL-CIO on this question seems to vacillate, even though international charters have been issued by the AFL-CIO, to both the Air Line Pilots Association and the Flight Engineers International Association; and an application for an international charter to the Air Line Stewards and Stewardesses Association has been on file for years.

On the face of it, one union for all air crew members has much to recommend it. However, the possibility of achieving a satisfactory merger at the present time is remote indeed, since all of the organizations involved lack the maturity essential to accomplish the job.

Everybody Reports To ALPA?

The Air Line Pilots Association is the prime mover in this project and sees all other employes as sub-departments of the ALPA, operated by ALPA under a board of directors composed entirely of pilots. The head of the departments for the other crafts would be employes of the Air Line Pilots Association. It should not be surprising that the officers of the other two unions take a dim view of such a proposition. The membership of both feel that their interests will best be served by retaining the autonomy of their organizations within their own ranks.

However, in spite of these differences of opinion, there is a means for releasing some of the tensions attendant to our jurisdictional controversies.

Now would be the appropriate time for the heads of all the airline labor organizations to lend their support to the formation of an Airline Labor Executives Association. Here is one area where airline labor could profit from the experience of the railway labor unions. There is fine precedent for such an organization in the Railway Labor Executives Association composed of the chief executive officers of the 22 railway unions. The RLEA is not a federation of unions; rather, it functions as a policy making body on matters of mutual interest to railway workers. It is an unincorporated and voluntary association of the heads of all major railway labor organizations. It is my opinion that such an organization could conceivably successfully bridge the ever-widening gap existing between airline unions. If nothing else, it would provide a means of communication and the cooperation which does not presently exist.

It behooves airline labor to bend every effort to establish its jurisdictional boundaries by means other than economic pressure which, in the long run would force hardship upon all airline employes without any guarantee of a constructive result. This must be self-evident to all responsible labor executives dealing with this industry.

About this new feature

This is the first in a continuing series of contributed articles written for AIRLIFT by the leaders of air transport labor. What do they consider the key problems in their area of industry? What should be done about them? AIRLIFT offers labor this platform to state its case. There'll be one article in each future issue, authored by air transport labor officials on the U.S. or international scene.

The ATA formula is the "bible" of both airlines and manufacturers when it comes to appraising the operating cost of a new transport. It is the necessary yardstick against which aircraft proposals can be measured, brought into a perspective for evaluation against a specific route operation. But it has fallen behind the times, is losing its value. Here AIRLIFT tells why, and what should be done about it.

ATA Formula Misleading on Costs

By COSTRENDER*

RELIABLE OPERATING COSTS are the great unknown of the jet age. Manufacturers, in their jet and turboprop sales program, have stuck closely to the Air Transport Association's 1955 formula for computing direct costs, but that document has obvious shortcomings, especially when literally applied.

The "ATA Formula," as it is called, is a complex series of detailed equations permitting cost estimates for future aircraft by applying certain derived constants to the speed, weight, and cost of the new aircraft and its engines.

And although the formula's equations contain many provisions for adjustments to meet the upward trends of costs, changes in engine overhaul times and the operating problems of the individual airlines, in the interests of simplicity, many of these variables are reduced to constants. The net result: literal and unquestioning application of the formula to an airline's new jet equipment may well grossly misstate actual operating costs. Some examples:

Pilots are assumed to achieve an annual productive utilization of 900 hours per year. The actual average today is around 750 hours—with 900 hours pay. Other pilot pay provisions are equally obsolete.

Aircraft speed is overstated by 10% or more over what can actually be achieved under today's normal operating conditions. ATA formula performance for a DC-7 is 2:28 hrs. from New York to Chicago. Actual average scheduled time is 2:45 hrs.

The maintenance labor rate in the formula is \$2.20 per man-hour, but the industry is actually paying close to \$3.00 this year.

Depreciation concepts require adjustment to current industry thinking of 10 years with a 15% residual value as compared to the seven years with 10% residual assumed by the formula.

Other equally broad generalizations govern utilization, spares requirements, insurance and fuel.

The skillful salesman or acute analyst can easily take advantage of the ATA formula as it now stands to better present his product, urging unquestioning acceptance of those parts of the formula which favor his case, and substituting "adjustments" in those areas which do not.

But perhaps the greatest drawbacks to the ATA formula are more basic—hidden economic "booby traps" waiting to snare the unwary aircraft operator.

No distinction is made between turboprops and pure jets—thus discounting the costs of maintaining costly propellers.

*AIRLIFT's contributing analysts on aircraft economics, operating trends, etc. are specialists in their field, but remain anonymous at their own request. Look for future appraisals by Costrender of current topics on operating economics.

Airframe and engine labor costs are based on weight—a manufacturer who "beefs up" his product to cut maintenance costs finds himself at a disadvantage compared to one offering a lighter, perhaps flimsier, aircraft.

The vast area of so-called "indirect costs" are left untouched, although many of them, such as maintenance overhead, passenger service, and landing fees are a function of the so-called "direct costs."

Maintenance material costs are based on aircraft and engine price—giving the advantage to the manufacturer who cuts his first price, planning to profit through sale of spare parts.

A big piston engine costs about \$90,000 new and over a 10-year life will consume some \$300,000 in overhaul material. In other words, repair cost exceeds initial cost 3-1/3 times. Here a \$10,000 understatement in new price could result in a \$33,000 "saving" in maintenance costs under the formula.

How badly the ATA formula could mislead one is illustrated by Capital Airlines' experience with the Vis-

Why Reliable Costs are Important

Realism in estimating future operating cost is the source of more than one management headache today. There's little wonder why, considering the expectations of an airline investing \$50,000,000 in a 10-plane jet fleet. Over the next 10 years it hopes to:

- Fly 300,000 hours and 135 million aircraft miles.
- Generate over 16 billion seat miles.
- Gross over \$1/2 billion at current fares and load factors.
- Buy \$75 million worth of fuel and oil (600 million gals.).
- Pay flight crews \$40 million in salaries and expenses.
- Spend \$13½ million for hull insurance.
- Pay out \$90 million for maintenance labor, materials and overhead.
- Spend \$25 million for advertising (radio, TV and press).
- Give 7,000,000 passengers \$20 million worth of food and beverages.
- Pay airports \$10 million to make 135,000 landings.
- Spend \$150 million for ground facilities, operations, sales, reservations and executive personnel; and other business expenses.
- Recover the \$50 million investment, plus \$15 million interest.
- And make a profit . . .

counts as compared to the two major operators' reported DC-7 costs for the year 1958.

Granted the ATA formula hit very close on certain accounts: Viscount aircraft labor, for example, was only 3/100ths of a cent higher per mile than the formula would call for. This, however, arises by two errors canceling themselves out: higher wage rates offset lower manhours actually worked.

Similarly, on the DC-7, individual and total maintenance accounts have turned out reasonably close to the unadjusted formula, with the variations in wages, prices, and overhaul periods canceling each other out.

On the opposite side of the ledger, the ATA formula: Understated Viscount and DC-7 crew salaries by over 50%, and expenses by a third.

Overstated Viscount fuel costs by 25% with actual oil costs only 1/6 of the formula.

Understated DC-7 fuel and oil costs by a third.

Overestimated insurance costs substantially.

Strikingly overstated Dart engine maintenance costs (formula 18.22¢ per mile—actual 8.14¢).

On a seat mile basis, the formula indicated the DC-7 to be 25% cheaper than the Viscount, while actual results have proved the Viscount to be the cheaper. Per plane-mile, the formula overestimated the Viscount by 20% and underestimated the DC-7 by 10%. Errors of this magnitude cannot be tolerated.

The formula appears most accurate in the area of airframe maintenance, both materials and labor, and least so in the areas of powerplants and flight personnel.

In some cases, accuracy can be improved by returning to the basic equations of the formula and substituting realistic figures for the "constants" used. Recognition of the Viscount's 1,700 hour engine overhaul life as contrasted to the formula's constant of 750 hours for turbine engines would reduce engine material costs from 15.13¢ per mile to 6.65¢, closely approximating Capital's 1958 cost of 5.94¢.

On the other hand, application of a realistic labor rate to aircraft maintenance labor would overstate these expenses more than the actual case justifies. The indicated DC-7 cost would increase from 7.63¢ to 9.38¢, contrasted to industry experience of 4.77¢.

The concern over the costs of the jets and turboprops now going into service has led the industry to make certain general departures from the ATA formula in an effort to insure greater realism.

1. Pilot costs—Current pilot contracts are being applied rather than the obsolete ATA figures.

2. Fuel and oil—Lower figures are being used, reflecting current tax-free prices of jet fuel.

3. Insurance—Lower rates are being assumed for hull risks.

4. Aircraft maintenance—Strict ATA formulas are being used, sometimes including obsolete labor rates.

5. Engine maintenance—Faced with formula costs of between \$150 and \$200 per hour for big jets, the manufacturers have offered short-term (2-3 yr.) guarantees at substantially less than this figure. These have been eagerly accepted by the operators, uncertain as to jet engine problems and costs, and represent a major step forward in insuring constant reasonable costs.

6. Depreciation—Useful lives and residual values have been extended to 10 years and 15%, despite the threat of supersonic transports by the mid-sixties, and the rapidly developing technology of the jet age.

The ATA formula is not the only method of estimating future aircraft operating costs. Each major carrier has its own yardsticks by which it seeks to forecast realistically the operating costs of various types of aircraft offered for its routes.

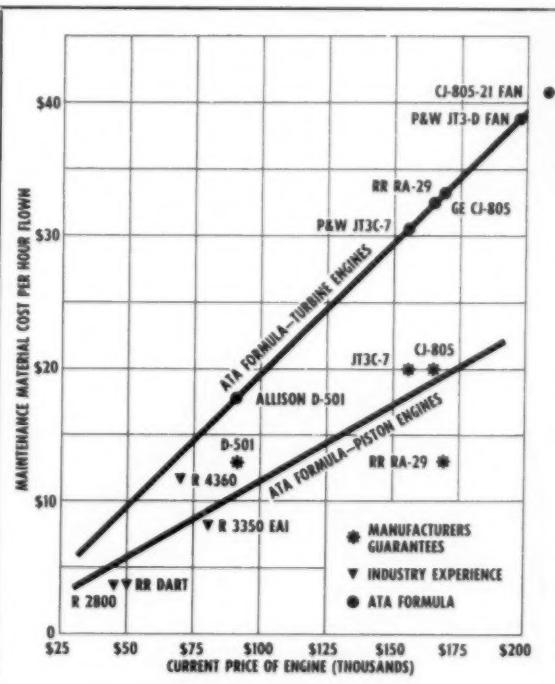
DC-7 VS VISCOUNT 745 COST PER AIRCRAFT MILE

Description	ATA Formula (unadjusted)	1958 Actual		
	Viscount	DC-7	Viscount	DC-7
Flight Operations				
Flight Crew Pay	10.92¢	13.43¢	18.26¢	20.42¢
Crew Expenses	1.07	1.21	1.57	1.62
Fuel	25.88	29.77	19.27	39.20
Oil	3.00	.87	.51	1.07
Insurance	7.87	8.06	1.54	.71
Other	....	....	....	2.40
Total	48.71	53.29	41.15	45.44
Maintenance				
Labor—Aircraft and Other Engines	7.27	7.63	7.30	4.77
Material—Aircraft and Other Engines	3.09	4.19	2.20	5.02
Other	....	....	....	.83
Total	29.48	26.95	19.97	25.74
Depreciation	24.96	26.12	19.79	25.30
Total Cost per Mile	103.15¢	106.36¢	80.91¢	116.48¢
First Class Seats	44	60	44	60
Cost per Seat Mile	2.34¢	1.77¢	1.84¢	1.94¢

The ATA formula was originally devised in 1944, and revised in 1949 and again in 1955. It is evident that revision is again required in order to correct constants, review formulas, broaden coverage and, hopefully, to simplify application. Provision should certainly be made to automatically adjust constants used to reflect the increases in labor rates, material prices, landing fees, fuel and taxes.

Minor variations in unit costs are crucial. A penny a mile in unexpected operating cost adds up to \$1-1/3 million in 10 years. A 5% underestimation of fuel consumption means \$3-3/4 million more expense.

The facts emphasize the necessity for critical cost analysis of modern jet fleets. "Piston engine thinking" is no longer valid. A jet's first cost is literally its least cost, and its operating expenses over the next decade can easily exceed its purchase price tenfold. Industry costing formulas require updating to keep pace with fast-moving technology and inflationary trends.



How ATA formula for engine material costs varies from actual

OC-7
0.42¢
1.52
9.20
1.07
.71
2.40
5.44

4.77
5.02
3.69
1.43
.83

5.74
5.30
5.48¢
60
1.94¢



President, W. V. Simonsen—
25 years in aviation.

Vice-President, C. L. Harrington—
10 years in executive aircraft.

Midwest Workshop for Executive Aircraft



NAC's big hangar at Wold Chamberlain Field, Minneapolis, Minnesota. 24-hour service is available.



Custom overhaul of 650 to 1500 h.p. engines at
Holman Field, St. Paul.



NAC refuels Ozark at Wold Chamberlain. Both
Simonsen and Harrington concur: "Phillips 66
Aviation Products are outstanding . . . they're
leaders in the field."

In and around the Twin Cities, Northwestern Aeronautical Company has a reputation for craftsmanship and technical competence. With well-equipped bases at Holman Field Airport in St. Paul and Wold Chamberlain Field in Minneapolis, NAC does airframe, engine, radio, instrument and hydraulic maintenance, as well as custom modification and complete overhaul of engines from 650 to 1500 horsepower. Their creed is service and safety. And it has paid off . . . judging from the number of local and transient planes they service, the volume of special engine work handled, and the country-wide acceptance of their DC-3 and Lodestar conversions.

In addition to taking care of private and business aircraft, and refueling airlines with Phillips 66 Aviation Gasoline (91 and 100 octane) . . . NAC is a vital part of the Army's contractual maintenance program.

For all of its various operations, NAC now has over 200 employees, including almost 50 certified A&E mechanics. When it is considered that NAC started with less than 50 on their payroll in 1946 . . . the success of their high-calibre work and service speaks for itself.



AVIATION DIVISION • PHILLIPS PETROLEUM COMPANY • BARTLESVILLE, OKLAHOMA

JUNE, 1959

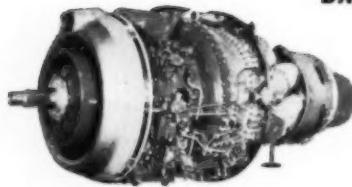
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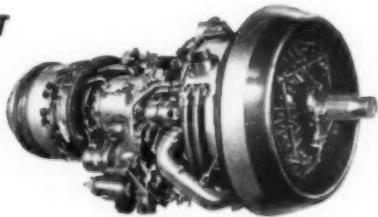
DART PROP-JET



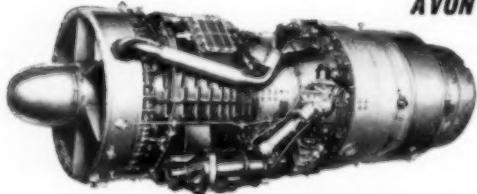
In service or under development at powers ranging from 1,540 e.h.p. to 3,200 h.p. The Dart is the most proven prop-jet in the world and has flown over 7,000,000 hours in scheduled airline service. It has an unexcelled record of reliability and is currently operating at overhaul lives of up to 2,300 hours.

TYNE PROP-JET

The Tyne is an advanced twin spool high compression engine due to enter service in 1960 at ratings of 4,985, 5,525 and 5,730 e.h.p. It has been designed to give low specific fuel consumption and is backed by the unique experience gained by Rolls-Royce in the operation of gas turbine engines in scheduled airline service.



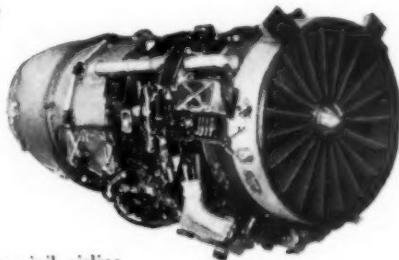
AVON TURBO JET



The Civil Avon has been developed to give low fuel consumption and long life between overhauls. The British Air Registration Board authorised its entry into service at an overhaul life of 1,000 hours.

CONWAY BY-PASS TURBO JET

The Civil Conway has the advantages of low first cost and operating costs, low weight, less noise and low specific fuel consumption. Initial Civil Conways have a guaranteed minimum thrust of 16,500 lb. and engines of 17,500 lb. guaranteed minimum thrust, will be available.



RB. 141 BY-PASS TURBO JET

The RB. 141 has been designed from the outset specifically for civil airline applications with the object of producing the best possible commercial engine for future jet transport aircraft. Engines with take-off thrusts of 13,600 lb. and 14,300 lb. will be available early in 1962.

Aer Lingus · Aerolineas Argentinas · Aerovias Ecuadorianas C.A. · Air Algerie · Air France · Air India International · Airwork · Alitalia · Aloha Airlines · Ansett A.N.A. · Austrian Airlines · Avensa · Aviaco (Spain) · Bonanza Air Lines Inc · Braathen's S.A.F.E. · British European Airways · British Overseas Airways Corporation · British West Indian Airways · Butler Air Transport · Capital Airlines · Central African Airways · Compania Cubana de Aviacion · Continental Air Lines · Eagle Aviation · East African Airways Corporation · Finnair · Hong Kong Airlines · Hunting-Clan Air Transport · Icelandair · Indian Airlines Corporation · Iraqi Airways · K.L.M. Royal Dutch Airlines · La Nica · Linea Aeropostal Venezolana · Lufthansa · Middle East Airlines · Misrair · New York Airways · New Zealand National Airways Corporation · Northeast Airlines · Northern Consolidated Air Lines Inc · Ozark Air Lines Inc · Pacific Air Lines Inc · Pakistan International Air Lines · Persair (Iranian Government) · Philippine Air Lines · Piedmont Aviation Inc · P.L.U.N.A. (Uruguay) · Quebecair Inc · Riddle Airlines · Royal Air Maroc · Scandinavian Airlines System · South African Airways · Sudan Airways · Swissair · Taca (San Salvador) · Transair · Trans-Australia Airlines · Trans-Canada Air Lines · Trans Mar de Cortes S.A. (Mexico) · Turk Hava Yollari · Union of Burma Airways · VARIG · VASP (Brazil) · West Coast Airlines Inc · Wien Alaska Airlines Inc.

ROLLS-ROYCE LIMITED, DERBY, ENGLAND

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Will Jet Builders Make Money?

Despite billions in sales, manufacturers are still not out of the woods on finances, exclusive AIRLIFT analysis reveals

By SELIG ALTSCHUL
Contributing Editor

Jet transports are in regular commercial service and have attained instantaneous passenger acceptance. But the aircraft builders are by no means out of the financial woods on their commercial programs.

Development and construction of turbine fleets for the airlines, while an unquestioned engineering success, has turned out to be mighty rough on aircraft company income accounts and balance sheets. The break-even point has yet to be reached by any of the aircraft builders introducing new commercial turbine equipment.

This is evident in an exclusive analysis of the costs of each of the five major aircraft builders sponsoring new commercial jet transports.

Douglas Aircraft Co., a few years ago, noted that the construction, testing and marketing of an airplane such as the DC-8 is a hazardous undertaking. This was no understatement as events were to prove.

Earnings Decline

The sharp decline in Douglas earnings for 1958 and deficit operations in the first quarter of its 1959 fiscal year are a tangible measure of the hazards involved.

More than \$175 million had been spent on DC-8 development program through Feb. 28, 1959.

Douglas further noted that write-offs on the DC-8, while declining, will continue to affect earnings adversely with the result that officials do not expect to show any profits for 1959. This is to say nothing of 15 DC-7s that Douglas has agreed to repurchase from airlines acquiring DC-8s. While the company has agreed to a set formula price at which it is buying the DC-7s, only after their ultimate disposition by Douglas will it be known if any losses will be incurred in this transaction.

Presumably as deliveries of the DC-8 are made later this year, Douglas will recover some of the capital funds invested in this program. However, there

may be a long road to travel before the company recaptures its costs and begins to show any earnings on this commercial jet transport.

Douglas reports total bookings for about 140 DC-8s. Its break-even point on this program has never been publicly disclosed.

It was noted by a Douglas official, a few years ago, that the company's profit margins in commercial contracts when completed would come out around 12% before taxes. It is obvious, however, that no one can foretell the ultimate limit in commercial sales nor is there any assurance that break-even points will always be reached.

Lockheed Aircraft Corp. has found the development and introduction of its Electra, a turboprop, to be no simple financial undertaking.

In its 1958 annual report, Lockheed noted that "nearly four years of development expenses written off against earnings ended last August, with \$11,182,000 in 1958 bringing total development costs to \$50,304,000. Heavy 1959 deliveries will lower by year end our large inventory investment."

Inventories of work-in-process on the Electra program amounted to \$120.8 million at Dec. 28, 1958, and include engineering costs since Aug. 31, 1958. Under the applicable accounting policy, the cost of sales recorded for 1958 deliveries was based on the relationship between the sales price and the estimated cost of the total number of airplanes for which the company had received orders by the end of the year. The difference between the sales prices and the costs thus allocated resulted in a loss being recorded for the Electra deliveries in 1958. Lockheed further observed that: "Due to various uncertainties, principally as to the number of orders the company will be able to obtain in 1959, it is presently not determinable whether the cost to be allocated to 1959 Electra deliveries will exceed their sales price."

It is no surprise, therefore, that Lockheed in reporting for the 1959 first quarter, showed a decline in earnings despite an increase in sales. Earnings were adversely affected by a loss on early deliveries of the Electra.

All told, Lockheed has received orders for about 160 Electras, of which 45 had been delivered by early May. A few years ago, the break-even point was indicated at close to 400. At its recent stockholders' meeting, the company noted that it would "need 50 to 75 more Electra orders in the next year or so to make the plane currently profitable" [Emphasis supplied]. This may be without regard to the development costs already written off.

Boeing, in commenting on its 707 program in its 1956 annual report, observed: "On the basis of the current cost projections, it is believed that we have attained or exceeded the break-even point with the number of jet aircraft now on firm order." This statement was made at the time when Boeing reported total orders for 134 of its jet transport series.

\$94 Million Write-off

In its 1958 annual accounts, Boeing revealed that charges to earnings through 1958 on the commercial program (707) total approximately \$94 million. These cumulative charges include a write-off in work-in-process inventories on the 707 program at the 1958 year end to estimated proportionate sales value "based on the quantity of airplanes scheduled for production."

Boeing previously noted that continuing write-offs of research, developmental and other general expenses on the 707 program and increasing write-offs of similar costs on the Model 720 program will have substantial impact on 1959 earnings. Also, further inventory write-downs on the commercial programs may be necessary.

In the first quarter for 1959, Boeing did have a further charge of \$12.6



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JET-PROP EXECUTIVE VERSION

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million as a consequence of its commercial program, bringing total write-offs to about \$107 million.

Trade reports indicate that Boeing now has orders for a total of about 190 units in the four versions of its 707 and 720 series. But official statements do not indicate that the break-even point is close at hand.

General Dynamics, through its Convair Division, has absorbed considerable charges in bringing along its jet entries, the 880 and 600. Research and development costs on this program have been charged to expense as incurred and aggregated \$24 million in 1958 and \$11.9 million in 1957. However, inventories of work-in-process, tooling costs and advances to vendors on the commercial program amounted to \$60.6 million at Dec. 31, 1958. Under the policy followed by the company for commercial aircraft contracts, the cost of sales to be recorded on deliveries will be "based on the relationship between the projected sales price and the estimated production and tooling costs of that number of planes for which firm orders are reasonably expected."

Higher In 1959

Still another \$8.8 million was charged off during the first quarter of 1959, bringing the total to about \$45 million. A company official further noted that these charges for 1959 "will substantially exceed the \$24 million figure for 1958."

Convair reports orders for about 79 jet transports. Trade sources indicate that Convair may not be too far away from reaching that level.

Fairchild Engine and Airplane Corp. has submitted to a costly experience in bringing forth its turboprop, the Fokker-designed F-27. After a write-off of some \$8.7 million in 1959, Fairchild charged operations in 1958 an aggregate of about \$29 million to reflect losses sustained thus far on the F-27 program. The company indicated that it had orders for about 68 units, many of which have now been delivered. It is noteworthy that the \$37.7 million written off on the F-27 program during 1957 and 1958 exceeded Fairchild's aggregate earnings, before federal income taxes, for the five year period ending Dec. 31, 1957.

Technological progress and the competitive urge remain powerful forces toward the introduction of the latest advances in equipment by the air transport industry. The financial experience of the aircraft builders in introducing the current family of jets, however, will give serious pause to any new program designed to penetrate supersonic cost barriers to support aircraft of the same name.

Jet Costs Exceed Forecasts, First CAB Reports Show

The new breed of jets and turboprops is costing the U.S. airlines almost double the figures originally cited by aircraft sales brochures and very well may need the high load factors being reported for them to make future operations a financial success.

This was apparent in the first cost data filed by airlines with CAB for the first quarter of 1959. At American, direct costs of Boeing 707s ran \$1,400 per hour and the Electra \$775. Pan American's 707 totaled \$1,232 and National's \$1,227. The latter's hourly rental came to \$876.

Eastern Air Lines reported Electra costs at \$509 per flight hour.

For local service carriers, F-27 direct operating costs were \$237 per hour for Piedmont and \$244 for West Coast.

All of these figures represent only direct costs and with a "rule-of-thumb" equal amount for indirect, would hike total 707 costs to about \$2,500 per hour, Electra about \$1,200 and F-27 about \$450.

Fuel consumption on the turbines appears to be running about 25% above original estimates. AA is burning about 2,330 gals. per hour on 707s, NAL 2,490 and PAA 2,182. On the Electra, American averages 796 gals., EAL 729. On the F-27, Piedmont runs 294 gph, West Coast 271.

In speeds, the 707 averages 477 mph takeoff to landing at AA and PAA, 447 at NAL. The Electra averages 333 mph at EAL, 332 at AA. The F-27 runs 200 mph at PAI, 183 at WCA.

In direct costs per available seat mile, American's figures work out to 2.74¢ for the 707, PAA 2.35¢ and NAL 2.47¢. On the Electra, EAL runs 2.20¢ and AA 3.43¢. On the F-27, Piedmont averages 3.55¢ and WCA 3.91¢.

Turbine Cost Capsule

(Per revenue hour)

	American	National	Pan American
Flying Operations*	\$475	\$351	\$562
Maintenance	467	—	391
Depreciation	458	—	279
Rentals	—	876	—
Total	\$1,400	\$1,227	\$1,232

*Except rentals

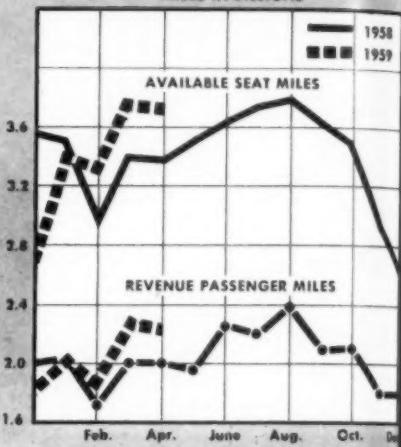
	American	Eastern
Flying Operations	\$199	\$217
Maintenance	261	126
Depreciation	167	166
Rentals	148	—
Total	\$775	\$509

	Piedmont	West Coast
Flying Operations	\$93	\$106
Maintenance	92	98
Depreciation	42	40
Total	\$237	\$244

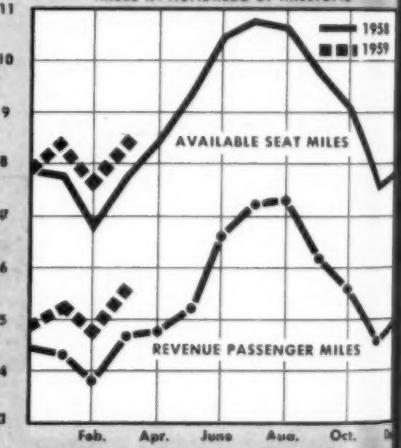
HOW'S TRAFFIC

Among U.S. Airlines

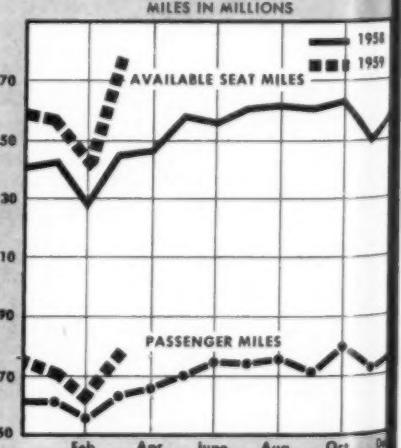
DOMESTIC TRUNKS
MILES IN BILLIONS



INTERNATIONAL
MILES IN HUNDREDS OF MILLIONS



LOCAL SERVICE
MILES IN MILLIONS



Summary of U.S. Airline Traffic for March 1959 vs. March 1958

This complete summary compiled by AIRLIFT magazine from Official CAB Records

	Revenue Passengers (000)			Revenue Passenger Miles (000)			Total Ton-Miles Rev. Traffic			% Available Ton Miles Used	
	1959	1958	% Change	1959	1958	% Change	1959	1958	% Change	1959	1958
DOMESTIC											
American	604	580	4.1	419,479	384,425	9.1	51,437,997	46,417,663	10.8	58.3	54.1
Brannif	175	176	-0.6	76,018	75,085	1.2	8,434,231	8,140,004	3.6	48.9	46.3
Capital	329	326	0.9	144,045	126,865	13.6	14,940,725	13,276,653	13.4	48.1	45.5
Continental	72	65	10.8	33,830	29,085	16.3	3,546,035	3,067,138	15.6	44.9	43.8
Delta	262	231	13.4	139,179	121,284	14.8	15,378,816	13,239,316	16.2	52.8	50.5
Eastern	723	675	7.1	430,964	407,414	5.8	44,492,467	41,833,971	6.4	45.6	50.6
National	182	151	20.5	125,770	108,123	16.3	13,296,337	11,494,409	15.7	50.6	56.9
Northeast	96	89	39.1	52,886	38,116	38.8	5,339,818	3,900,482	36.9	45.2	41.2
Northwest	142	109	30.3	109,515	69,625	57.3	12,708,471	8,254,926	53.9	45.5	44.5
Trans World	384	359	7.0	310,797	277,587	12.0	34,266,159	30,245,777	13.3	57.2	53.5
United	559	541	3.3	390,962	370,342	5.6	48,206,699	43,925,944	9.7	56.2	56.7
Western*	124	1	+	65,827	200	+	6,997,369	19,021	+	52.4	59.5
TOTALS	3,652	3,283	11.2	2,299,294	2,008,151	14.5	259,045,124	223,815,304	15.7	52.2	51.5
TERRITORIAL CARRIERS											
Caribair	30	24	25.0	2,156	1,712	25.9	236,338	186,057	27.0	74.6	63.2
Hawaiian	36	24	50.0	5,340	3,677	45.2	550,003	419,704	31.0	60.8	53.6
Trans Pacific	16	10	60.0	2,172	1,409	54.2	182,345	122,921	48.3	54.1	50.4
TOTALS	82	58	41.4	9,668	6,798	42.2	968,686	728,682	32.9	62.1	55.2
LOCAL SERVICE											
Allegheny	40	33	21.2	6,883	5,527	24.5	712,566	564,214	26.3	44.2	40.6
Bonanza	18	17	5.8	4,434	4,035	9.9	440,873	400,553	10.1	53.2	48.5
Central	13	10	30.0	2,601	1,927	35.0	274,273	196,759	39.4	33.7	29.3
Frontier	22	20	10.0	5,273	6,258	-15.8	582,486	679,531	-14.3	45.4	62.8
Lake Central	17	14	21.4	2,646	2,185	21.1	270,031	223,408	20.9	41.8	35.5
Mohawk	43	34	26.5	8,315	6,356	30.8	827,426	636,232	30.1	53.8	49.5
North Central	64	57	12.3	10,897	9,158	19.0	1,118,723	930,051	20.3	45.2	45.1
Ozark	44	33	33.3	7,530	5,357	40.6	776,698	549,020	41.5	42.4	43.8
Pacific	35	31	12.9	7,838	7,002	11.9	772,138	689,822	11.9	51.4	50.8
Piedmont	39	29	34.5	7,970	5,788	37.7	805,145	585,997	37.4	45.0	43.7
Southern	32	18	22.2	3,864	3,144	22.9	401,860	322,621	24.6	38.1	36.2
Trans-Texas	23	19	21.1	5,323	4,209	26.5	565,099	448,743	25.9	43.8	37.2
West Coast	24	20	30.0	4,971	3,734	33.1	492,916	371,574	32.7	44.4	44.7
TOTALS	406	335	21.2	78,545	64,680	21.4	8,040,234	6,598,525	21.8	45.2	44.5
HELICOPTER CARRIERS											
Chicago	10	8	25.0	184	144	27.8	18,973	15,667	21.1	30.6	32.1
Los Angeles	3	2	50.0	108	91	18.7	16,809	14,659	14.7	59.8	56.3
New York	7	5	40.0	143	94	52.1	17,663	11,630	51.9	41.2	39.6
TOTALS	20	15	33.3	435	329	32.2	53,445	41,956	27.4	40.2	40.3
INTERNATIONAL											
American	12	12	.....	13,249	12,180	8.8	1,639,435	1,615,067	1.5	66.7	63.7
Brannif	4	4	.....	7,634	7,317	4.3	945,293	928,520	1.8	46.3	47.0
Delta	4	5	-20.0	4,778	6,111	-21.8	581,389	733,320	-20.7	42.9	45.7
Eastern, Overseas	34	29	17.2	48,151	38,200	26.0	5,261,444	4,165,894	26.3	58.4	55.1
San Juan	25	21	19.0	37,718	29,410	28.2	4,103,915	3,185,959	28.8	63.5	40.3
Bermuda	4	4	.....	2,892	2,991	-3.3	307,030	316,473	-3.0	28.9	37.4
Mexico	5	4	25.0	7,541	5,799	30.0	850,499	663,462	28.2	57.3	44.5
National	8	8	.....	5,876	5,653	3.9	662,273	679,312	-2.4	49.9	37.7
Northwest	12	10	20.0	27,211	21,947	24.0	5,192,903	4,115,118	26.2	63.1	62.4
Hawaiian	3	1	200.0	7,736	4,978	55.4	863,735	551,183	56.7	74.7	67.2
Panagra	11	12	-8.3	15,915	15,930	-0.1	2,380,685	2,266,968	5.0	66.3	64.8
Pan American, System	228	199	14.6	336,318	279,518	19.6	47,199,619	39,752,500	18.7	67.1	61.5
Latin America	109	95	14.7	112,257	99,963	12.3	16,094,315	14,510,352	10.9	68.4	64.1
Arlantic	90	79	13.9	115,244	97,431	18.3	16,174,926	13,936,187	16.1	62.1	55.8
Pacific	26	22	16.2	103,786	78,935	31.7	14,471,555	10,782,955	34.2	73.0	47.6
PDX/SEA-HON.	2	2	.....	6,347	4,543	39.7	692,108	513,472	34.8	65.1	54.4
Alaska	3	3	.....	2,831	3,169	-10.7	458,823	523,006	-12.3	46.5	50.2
Trans Caribbean	6	3	100.0	9,175	5,320	72.5	883,570	442,205	99.8	68.0	86.3
Trans World	25	19	31.6	75,896	51,532	47.3	11,061,758	7,037,900	57.2	74.7	60.9
United	8	8	.....	19,589	18,395	6.5	2,239,418	2,068,071	8.3	65.0	57.2
Western	4	Strike	.....	6,611	Strike	.....	720,283	Strike	.....	65.5	.....
TOTALS	356	309	15.2	568,403	462,103	23.0	78,768,070	63,803,875	23.5	66.2	60.3
ALASKAN											
Alaska	8	6	33.3	3,822	2,697	41.7	627,598	462,129	35.8	38.5	41.0
Alaska Coastal	3	3	.....	318	337	-5.6	39,376	41,874	-6.0	61.1	64.1
Co. dova	1	1	.....	250	146	71.2	68,081	23,995	83.7	44.0	35.6
Ellis	4	3	33.3	223	199	12.1	26,661	24,041	69.2	67.8	67.8
Nor. Consolidated	2	2	.....	557	580	-4.0	131,766	130,122	1.3	58.3	57.7
Pacific Northern	7	6	16.7	6,607	5,463	20.9	1,034,270	857,845	20.6	51.2	47.3
Reeve	1	1	.....	842	538	56.5	217,591	154,957	59.7	46.2	46.2
Wien	3	2	50.0	789	483	63.4	348,545	232,507	49.9	55.8	60.2
TOTALS	29	24	20.8	13,408	10,443	28.4	2,493,908	1,927,470	29.4	48.6	47.6

*Figures reflect strike period.



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AIRLIFT



Here's A Detector That 'Sees' Fires

By JOSEPH S. MURPHY

A revolutionary new aircraft detector that "sees" fire and smoke, being introduced by Northeast Airlines on its Viscounts, has been developed by Pyrotector, Inc. of Hingham, Mass. And if it lives up to its advance billings, the new detector promises to erase the phrase "false alarm" from the pilots log book lexicon.

Northeast has placed an order for Pyrotector smoke detectors for its fleet of Viscounts, will require only eight manhours to install them in the baggage compartment of each of the British-built turboprops. In tests leading up to the purchase, NEA found that the system sounded an alarm within three seconds after smoke was introduced about 10 ft. from the detector.

The new system, the brainchild of two young engineers, Donald F. Steele and Alfred W. Vasel, discards the long-standing "thermal" approach to fire detection. Instead it is a visual system, one that senses changes in infrared radiation, reports it to the cockpit instantaneously when it reaches an "alarm" level.

Vasel, who heads the new firm, spent five years in fire detector development with Fireye Division of Electronics Corp. of America, is a shoe company president on the side. Steele, vice president of Pyrotector, is an ex-Pratt & Whitney field service engineer.

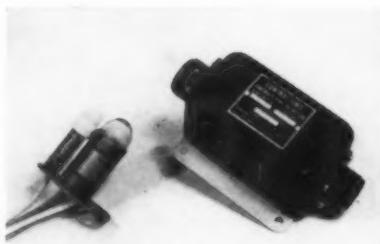
Their new fire detector, essentially an infrared sensitive device, is simple in design. A solid photoconductive cell that weighs only an ounce, increases its output as infrared radiation increases. When it reaches a pre-set level, the warning sounds. For smoke detection, an alarm signals when smoke density reduces light transmission from a miniature aircraft lamp by 30 to 35% below that available in clear air.

Here's how Steele and Vasel rate their system's performance:

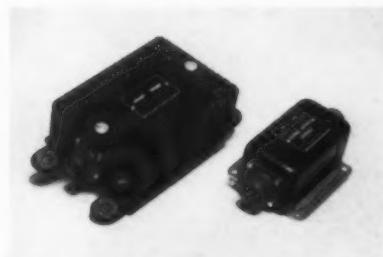
Maximum speed—No head absorption required. Elapsed time of 15 milliseconds from the outbreak of a fire until the alarm sounds.

Maximum protection—100% of volume. Complete coverage of an engine weighs only 1.5 lbs.

Faster reset—Heat dissipation not



Fire detector (left) uses infrared to spot fires. Combination fire and smoke unit (right) weighs 12 ounces.



required. When the fire goes out, the alarm goes off.

But the biggest bonus for operations comes in reliability. The system uses relatively low impedance, high output signal leads that will not cause an alarm if shorted or opened. And the pilot has a ready check that the fire detectors are working. A small test light located adjacent to a detector duplicates the color and intensity of a small fire.

For maintenance, a simple test kit made up of a voltmeter and switches may be connected at the control unit. Only a few minutes are required to make a check of the system.

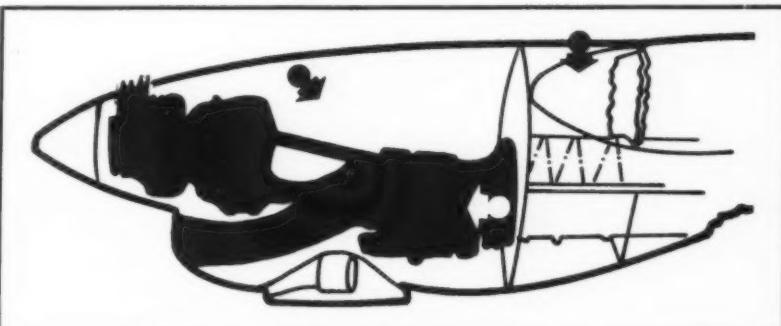
The NEA decision to adopt the Pyrotector system, although the first production order, is not the first case of operational use. Lockheed's Georgia Division ran the first flight tests of prototypes in four engines of a C-130.

Boeing, under an Air Force contract, has conducted extensive laboratory

and flight fire tests with five Pyrotector systems. As a result, Wright Air Development Center has approved the system for military aircraft. Strategic Air Command is considering it for newer model B-52s.

Probably the most outstanding performance of the new system to date took place during FAA tests in Indianapolis. Wired to a Boeing 707 nacelle, the system performed without malfunction during 274 test fires. Even on occasions when moderate amounts of smoke and soot reduced ultraviolet light as much as 90%, the sensitivity of the infrared responsive detector was not affected.

Aircraft fire detection systems, despite marked design advances made over the years, are still the number one headache for airline operations. In a recent check of FAA daily mechanical reports some 20 out of 45 engine shutdowns in flight could be traced directly to false warnings.



Typical installation (arrows are detectors) in turboprop engine. Lockheed tests on C-130 were troublefree for a full year.

WHAT'S NEW

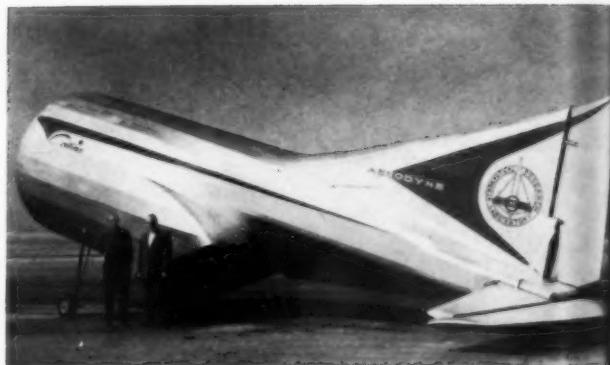


S-61 MOCK-UP

Sikorsky Aircraft, Stratford, Conn., has rolled out the mockup of the 25 passenger S-61. The display will be sent to the International Air Salon in Paris. First flight of the S-61 is scheduled for early 1960. It will be powered by three General Electric T58-6 turbines. Cruise speed will be more than 150 mph.

WINGLESS VTOL

This advanced design of the Collins Radio Co.'s "Aerodyne" is scheduled for early shipment to NASA's Ames Laboratory, Moffett Field, Calif., for full-scale windtunnel testing. The radical design VTOL vehicle achieves vertical and forward flight by channeling the airflow from its two internal contra rotating propellers through belly vents. Conventional rudder and elevators provide directional control, even under hovering conditions. Designer Alexander Lippisch and Ernst Sielaff, Collins structural engineer, are shown with the aircraft.



STOL TRANSPORT

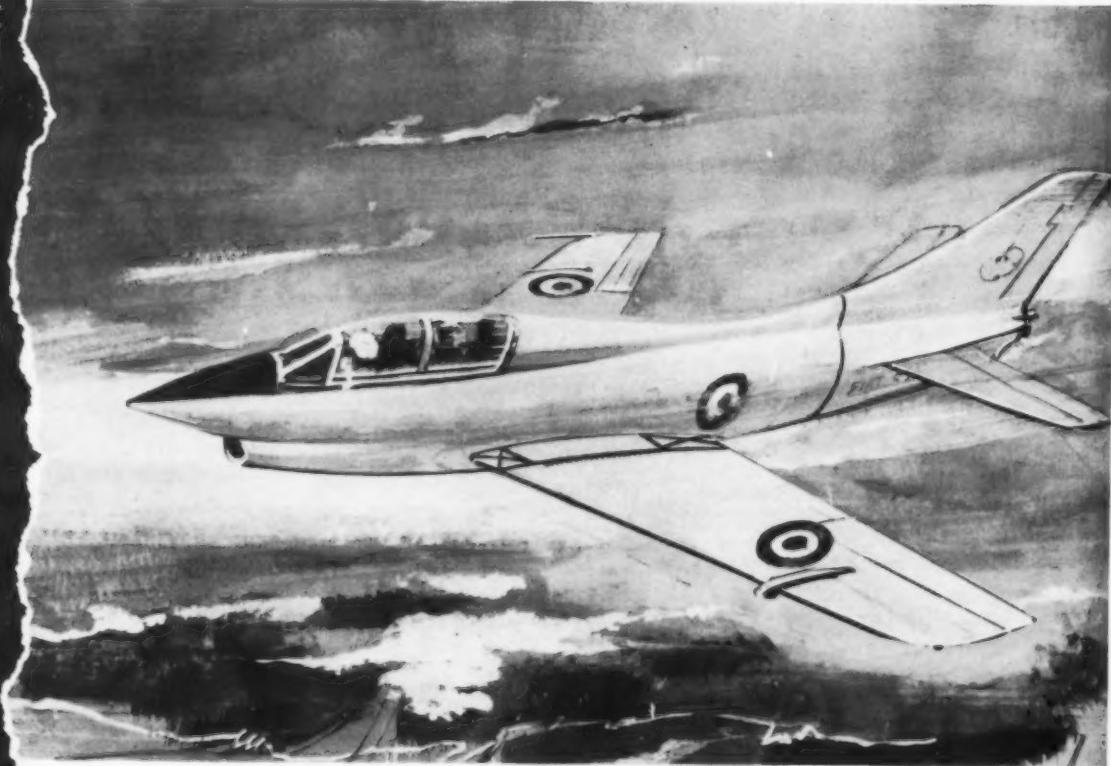
De Havilland Engines and Societe Des Ateliers D'Aviation Louis Breguet have announced that GE T58 engines will be used on the Breguet 941 four-engine STOL transport. British have dubbed the engine the "Gnome."



30-PASSENGER 'COPTER

Sud-Aviation 3200 medium helicopter has been rolled out. It is powered by three Turbomeca "Turmo IIIB" free turbines rated at 750/800 shp. The 3200 will carry 30 passengers, and will be used by the French for ASW missions.

FIAT AVIATION



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FAA's 'Crystal Ball' for 1980 Traffic

The Federal Aviation Agency is preparing to launch the biggest air traffic survey ever made. Covering the period between July 9 and August 2, the study follows one made last winter and is designed to give as nearly as possible a picture of what airspace conditions will be like in 1980. Its main objectives will be to predict traffic density over the country, total number of traffic movements at each airport and the nature of traffic flow between specific terminals.

The study will be made for FAA by Booz, Allen and Hamilton, a Chicago consulting firm, under a contract valued at \$342,000. Some 200 million separate pieces of data will be gathered from more than 200,000 flight segments involving military, airline and general aviation operations.

Information from the military will be collected from flight records of the various services. Airline data will be taken from the Official Airline Guide schedules and adjusted against delay reports filed with the Civil Aeronautics Board. General aviation figures will be gathered in the field by Civil Air Patrol cadets, who will pool pilots about specific flights as they are begun or ended.

FAA expects the July samples to cover 750 general aviation airports, 340 military bases, and all civil air carrier points. Some 36,500 general aviation flights—approximately 52% of the total—will be polled, as will 35,000 military, and 43,000 air carrier flights.

In addition, detailed weather information from Weather Bureau centers will be disseminated. This data will reflect the influence of visibility, ceiling, wind, and other weather factors upon flight activity. The information will be incorporated as a side count to determine altitudes flown, IFR-VFR mixes, and other weather-caused changes in mission profile.

Other side counts will include pilot's reason for making the flight, the influence of the terrain to be crossed, etc.

Survey samplings will be taken on a four-day week. The days chosen are: Thursday, because it is the peak day of military flying; Friday, because it is peak air carrier day; and Saturday and Sunday, because they represent the heaviest general aviation flying periods.

Data processing for the survey will be handled by the IBM 709 computer, which can store 200 million characters and perform 10,000 calculations in one second.

Survey information will be placed on IBM punch cards, with each card representing one complete flight. The computer will be able to analyze 10 flights per second.

A typical question put into the computer might be: what would be the expected activity at Idlewild Airport between 4:00 PM and 5:00 PM on a Sunday in July, 1964 if the ceiling were 800 ft. with two miles visibility?

Booz Allen doesn't pretend the answers and estimates of this survey will be exact. Accuracy will diminish as data is extrapolated in time, but Booz Allen says the forecasts covering the next five years should be very close.

What will be established is a methodology which can be updated with revised information at any later date. In this way, Booz Allen hopes to keep FAA current on what traffic is and will be in the future so that plans can be made for expanding and modifying the air traffic control complex.

Needed: \$5 Million Now To Pave Way for Jets

The relatively small sum of \$5 million, badly needed but so far without a donor, is the amount which stands in the way of world-wide civil jet operations.

The exact amount is \$5,261,000 according to the report of the International Civil Aviation Organizations Implementation Panel headed by Walter Binaghi, ICAO council president.

The group, which includes Jerome Lederer, head of the Flight Safety Foundation as a U.S. representative, reports an additional \$3,498,350 would be required to man and maintain the unappropriated aids annually.

The missing links, scattered all over the globe, involve all phases of operations: airports/ground aids—\$1.1 million; communications—\$3,256,000; air traffic services—\$355,000 and meteorology—\$550,000.

The fund shortages for annual operation of these aids would be divided as follows: personnel—\$1,160,000; meteorology expendables—\$1,549,200; miscellaneous costs such as insurance, power, etc.—\$789,350.

According to one ICAO spokesman, failure to obtain the needed funds from the ICAO member nations will mean some sacrifice of operating efficiency for all the carriers of the world in jet operations. The problem is slated for

discussion at an upcoming (12th) session of the ICAO assembly in San Diego this month and next.

What the Airlines Want in a Doppler Computer

Aeronautical Radio, Inc.'s airlines electronic engineering committee (AEEC) has laid down the general characteristics of one of the upcoming big, new navaids for jets, the Doppler radar computer.

Arinc Characteristic No. 543, approved by its airline membership recently, spells out a computer that will weigh about 10 to 15 lbs., supplemented by a four-to-six-pound control panel and a two-to-four-pound indicator.

These weights are cited for the benefit of installation designers selecting shock mounts, but they are a good index of what the carriers expect manufacturers to meet or better.

Although AEEC earlier adopted a characteristic for the basic Doppler radar sensor (No. 540), the computer will be the brain of the new self-contained navaid that will put the information from the Doppler radar in a form the pilot can best use.

Dimensionally, Arinc calls for a short $\frac{1}{2}$ ATR (air transport rack) size for the computer, a 5.75 in. wide, 5 in. deep and 4.5 in. high control panel and standard 3-in. indicator 6.5 in. maximum length. The initial planning for the computer does not call for wind-memory features, but AEEC estimates there is a 20 to 50% expansion capability within the short $\frac{1}{2}$ ATR case to accommodate this feature if the airlines later want it.



Sketch shows how one Doppler indicator can display a variety of information. Included are: (1) desired track (2) actual track (under lubber line) (3) lubber (4) alert light (5) distance counter (6) optional cross track deviation bar.



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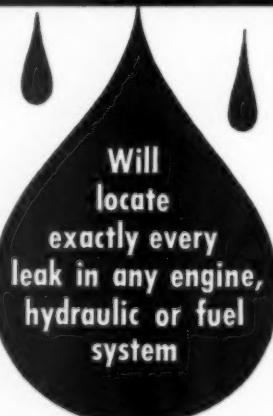
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COCKPIT

By CAPT. J. D. SMITH

Is FAA Bungling on Runway Lights?

All-weather operation, that elusive goal long sought by both civil and military aviation, is gaining new popularity. The arrival of jets in scheduled airline service has intensified the need to complete all flights regardless of weather.

And as with most aviation problems, there is no scarcity of suggestions as to how to proceed. While the so-called answers contain a varying degree of integrity, they generally boil down to agreement on at least one point: it will take something additional in the way of equipment before present landing minimums can be safely reduced. And then there is that new systematic opinion that the problem must be approached in two stages: interim and long-range.

You'll no doubt recognize this latter approach. It's the one being applied to the solution of airspace utilization, to wit: squeeze the last ounce of blood from what is available while bringing about the Utopian solution. As with ATC, however, the jets are here and all-weather operating improvement must first come from the tools now on hand. Automatic airborne devices sound nice. But they are not a simple item to produce.

This raises the question of visual landing aids, a subject dear to the hearts of pilots and operations people for many years. Past progress has been most disappointing. The numerous frustrating years it took to develop a single standard for approach lights have been disgraceful. And finally, the system that was adopted was exactly the same as requested by the airline pilots and installed at Newark Airport more than 10 years ago.

No Lesson From Experience

One would think that this horrendous escapade of various professional committee sitters would have taught a lesson. To the contrary, the next big step in improvement of visual landing aids is being subjected to the same frustrating treatment.

Airport operators, who want and need all-weather operation as badly as the airlines, are in a state of dilemma. Witness this discouraging report of the Airport Operators Council to its members: "Decisions are probably still at least a year off. The establishment of test facilities at the National Aviation Facilities Evaluation Center at Atlantic City under sponsorship of the Federal Aviation Agency should lead to an answer. In the meantime, installation of any fixtures has an element of risk in it."

Consider this situation. A vast number of runway extensions are being programmed now that the needs of the jets are known. Timing is extremely important.

To properly budget his program, the airport manager wants the standards for visual aids adopted early. Without standards, there is no eligibility for federal aid. Without FAA approval, the operator is left to guess what might be required and hope he guesses right. Or, as is now the case, he will do no planning for visual landing aids. Once the new runway extensions are built, the standards that are set up will in a large measure be governed by one thing, the almighty dollar.

Nothing But The Best

A penurious program in connection with the approach light system cost many lives and millions of dollars in damage to aircraft. Aside from mid-air collisions, practically all airline accidents in recent years have been within a mile of the airport. Obviously, a program that calls for anything less than the best in runway lighting will perpetuate this undesirable situation.

The need for better runway lighting in the landing area is not a new one. Here, one ray of hope comes from the efforts of the military. Evidently not rushing to participate in another do-nothing professional committee go-around, the military has been doing its own evaluation work.

The most recent project was undertaken at Dow AFB, Maine. Supersonic fighter aircraft and heavy jet bombers made numerous actual zero-zero landings. The result: the USAF has an all-weather standard visual aid system now being installed. Again, the conclusion they arrived at supports the original proposal of airline pilot personnel.

Where is the FAA? Ironically, by last December, it had made VFR approaches at Dow, but no instrument approaches. Now, at considerable expense, FAA has installed a system similar to Dow at Atlantic City. Needless to say the duplication in evaluation will further delay the arrival at a standard that already is long overdue. The present dilemma among airport operators will drag on.

The USAF evaluation clearly supports the narrow gage runway lighting philosophy. The hardware for this system is Elfaka flush lighting.

FAA and its predecessor, CAA, have consistently attempted to degrade the advantages of the Elfaka flush unit. Primary objection has been one of cost.

FAA has rejected Elfaka lighting for Chantilly Airport. Another runway lighting system has been adopted based on experience gained from a limited number of approaches in DC-3 and DC-4 aircraft. Airline pilots were not invited to this demonstration.

Certainly DC-3 and DC-4 approaches do not resemble low-weather problems facing pilots operating DC-7, Electra and Boeing 707 equipment.

A hasty decision by FAA could prove tragic unless supported by data gained during actual conditions by representative aircraft.



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Marseilles, France, February 15, 1931—Captain Maurice Noguès landed his tri-motor Fokker aircraft at La Ciota Airfield today after completing the first scheduled round-trip flight between Marseilles and Saigon, Indo-China. Captain Noguès' exploit marked the culmination of five years of exploratory flights along the route. The service is expected to speed mail, cargo and passengers between Paris



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New Marketing Pitch Sells Commanders

Aero Design and Engineering Co., manufacturer of the Aero Commander, has come up with a new sales idea to help prospective customers discover their need for a business aircraft.

T. J. Harris approach, created by vice president—sales, Thomas J. Harris, is called a Time Travel Analysis. TTA is based on a comparison of the prospect's travel costs via public carrier versus the costs of operating a company airplane for the same amount of travel.

Basic point of TTA is determining the dollar value of an executive's time. This is to help distinguish between cost



of time saved and value of time saved.

Aero Design says its studies show that an executive whose indirect overhead, expense account, secretary salary and direct overhead are taken into account will generally cost his firm two to three times his actual salary. The usual median of this cost is \$25 per hour.

Once the executive cost figure is pinned down, Aero Design tabulates elapsed time and per mile costs of trips. Time and cost of the same travel via company airplane is next determined. Savings in executive time, if any, are then fixed, and all trip costs are determined.

These steps are simple computations based on a comparison of costs and time that were incurred in actual travel

with a projection of similar travel by company airplane. Projected time subtracted from actual time gives time saved. By multiplying this time saved by the value of executive time, a figure is obtained which, when added to actual transportation expenses gives the total cost of travel performed.

To get a figure on the TTA which is as accurate as possible, Aero Design recommends a company use at least a two-month time period. By using company travel records, actual cost can be computed by adding the value of the executive's time to actual travel cost.

Le Tourneau's Air Center, A Complete Flying Facility

Le Tourneau Air Center at Gregg County Airport, Longview, Texas, has gained FAA approval for what it claims is one of the most complete business flying facilities in the Southwest.

The Le Tourneau shop is approved for maintenance and repair of all aircraft under 12,500 lbs., and specified larger airplanes including DC-3s, B-26s, and C-46s. The powerplant shop overhauls engines up to and including R2800s.

One of Le Tourneau's biggest projects at present is the conversion of surplus B-26s to executive airplanes.

In addition to its shops, Le Tourneau operates a charter service and FAA-approved primary flight school.

World-wide charter flights are made in a fleet of seven airplanes including a B-26, a Lockheed 12, a Lodestar, and a Piper Apache.

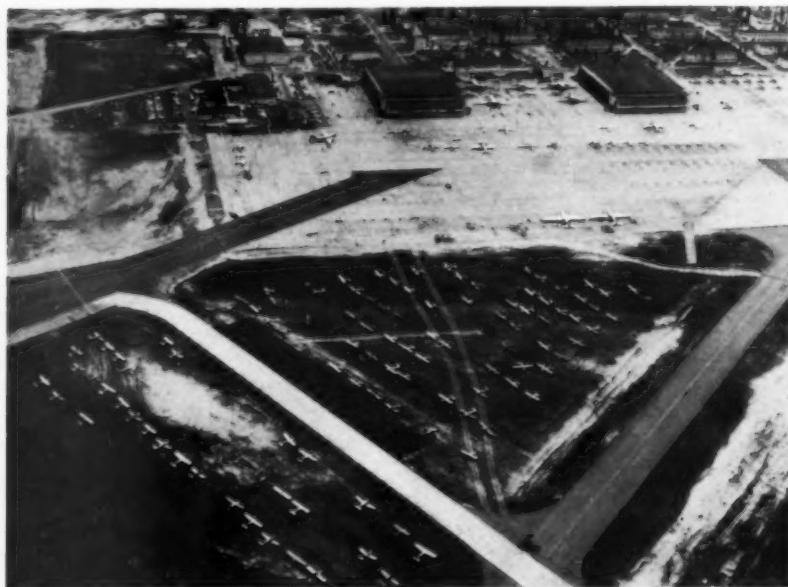
For training operations, Le Tourneau has a Luscombe, a Bonanza, and a Cessna 172. A Link Trainer is available for refresher or complete instrument training courses.

Le Tourneau also handles servicing of all transient aircraft at Longview. Humble gasoline in 80 to 100 octane is used.

Cessna Offers 12-lb. 'Pilot' For Light-Twin Model 310C

Cessna has come up with an automatic pilot for its Model 310C. It is the Mitchell transistorized automatic pilot, which weighs only 12.9 lbs. installed, exclusive of the necessary gyros.

Cessna says the new unit requires less power than a cabin overhead light and provides positive three-dimensional control. It requires no warm-up time and is mounted directly behind the



FAA's First "Fly-in" Draws 150 Planes

The first attempt by the Federal Aviation Agency to convince business and private flyers that they're not being ignored was a success.

More than 150 general aviation aircraft, ranging from corporate DC-3s to privately owned Cubs, attended FAA's fly-in last month at the National Aviation Facilities Experimental Center, Atlantic City. Most of the visitors agreed it was a good show; they look forward to another one next year.

FAA officials, headed by Administrator E. R. Quesada, briefed the pilots on new developments in navi-

gational and air traffic aids. On hand were several of the equipment manufacturers: Radio Corp. of America, which is developing Air-Ground Automatic Communications System (AGACS); General Precision Laboratory Inc., with its air traffic management system, using automatic data processing to guide aircraft from terminal to terminal; General Railway Signal Co., developer of Taxiing and Routing of Aircraft Coordinating equipment (TRACE), which will guide pilots about taxiways at unfamiliar airports.

instrument panel.

The autopilot consists of four basic components, the directional gyros, pitch and roll servos, amplifier, and a pitch servo effort indicator which shows when the system is in operation.

The new unit allows pilots to make precision climbs, turns, and let downs, and permits selected course flying within one degree accuracy.

Installed price is \$2,965. The autopilot will be available as factory installed equipment scheduled for delivery July 17 or later.

Firm Plans \$500,000 Hangar for its Business Aircraft

National Distillers and Chemical Corp. is constructing a \$500,000 hangar at Teterboro Airport for its business aviation uses.

The 105-foot by 220-foot steel and masonry hangar is expected to be completed by Nov. 1 in time for delivery of National Distillers' new Grumman Gulfstream twin-engined turboprop. The company will also transfer its two Lockheed Super Venturas to the new location from Hangar 3 at the airport.

The hangar will be built on six acres leased for 20 years at the New Jersey airport from the Port of New York Authority. Terms of the lease call for rental of \$15,000 a year.

Corporate Operators Strong On Pilot Training Effort

As a part of its business aircraft safety program, Flight Safety Foundation has surveyed corporate operators about their training procedures. Based on a 30% return of questionnaires, FSF reports 98% of the firms conduct pilot proficiency programs. Some 52% use their own plus outside training organizations, 38% use only their own programs, and 10% use only outside programs.

How to Get Cash Refund On Business Aircraft Avgas

Many business aircraft operators are not aware of a provision passed nearly three years ago, which entitles them to a one cent refund on each gallon of aviation fuel they purchase.

Reminder of the refund comes from L. M. Foster, budget secretary of National Life Insurance Co., Montpelier, Vt. Mr. Foster points out that the Federal excise tax on gasoline, set by the Federal Highway Revenue Act of July 1, 1956, was established to help finance road building projects. A provision of the act allows a one cent per gallon refund for gasoline used in other than highway vehicles. Refund requests

should be directed to the Internal Revenue Service.

Claim should be made on Form 843, available at any IRS office. Filings are to be made for each one-year period beginning July 1 and ending June 30. Date for filing is after July 1 and not later than September 30.

FRAM Filters for Pawnee

The Piper Pawnee (PA-25) agricultural airplane will be the first with the FRAM dry-type carburetor air filter as standard equipment.

FRAM claims dust removable efficiency of 99.5% with the unit.



Lockheed Reports More JetStar Sales

Three more companies have put up deposits for JetStars. They are Pratt & Whitney Aircraft and two Canadian firms, T. Eaton Co., and Imperial Oil.

The Pratt & Whitney airplane will be powered by four P&W JT12s. It will be used for testing future engine developments and executive transport. Delivery is slated for September, 1960.

The Canadian customers have placed

a deposit, but not committed themselves to purchase. It has not been announced whether these airplanes are to be four-engine JT12 or twin-engine Bristol Orpheus powered.

Only previously disclosed JetStar order is from Continental Can.

Pictured is the twin-engine Orpheus version with external slipper tanks. Tanks give an extra 1,280 gals. of fuel.



Super-V Bonanzas Go Into Production

Oakland Airmotive-Super-V Corp., Oakland, Calif. is seeking distributors for its Super-V Bonanza conversion.

Aircraft orders have already been received from the U.S., Canada, Switzerland, and Liechtenstein. Customers are putting up \$500 deposits in escrow pending FAA certification.

Four airplanes are now on the production line, and all engine calibration

tests are reported completed.

The Super-V is powered by 170-hp Lycoming O-340 fuel injection engines. Injection system was developed by Simmonds Aerocessories, Inc., Tarrytown, N.Y. The airplane will cruise at 206 mph at 75% power.

The airplane design was originated by Dave Peterson of Tulsa, Okla., who now is serving as a consultant with Oakland Airmotive.



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Small Parts Can Lead to Big Business

General Aircraft Supply's Larry Zygmunt proved this point.

Now, merged with Airwork, he aims for \$2.25 million a year.

General Aircraft Supply Corp. began business in the pilots' ping-pong room at Detroit City Airport in 1939. In the 20 years since then its energetic founder, Lawrence F. "Larry" Zygmunt has boomed an original \$3,500 investment into a \$1.5 million activity.

Last month he joined forces with an equally aggressive partner in servicing the business aircraft field, Francis L. Hine of Airwork Corp. in Millville, N.J., setting the stage for an even rosier outlook for the next 20 years.

Zygmunt was virtually "forced" into the aircraft parts business. Flying a Fairchild F-24 while attending Detroit University in '39, he ran into plenty of trouble finding parts to keep the F-24 operating. He couldn't understand why aircraft parts could not be had around Detroit just as easily as automobile spares.

Zygmunt's professor Peter Altman, then dean of engineering and now a v.p. and advisor of Continental Motors Corp. came up with the answer, "Why not go into the parts business."

Overnight market survey

Zygmunt made a one-night market analysis, got Altman to put up half of the \$3,500 cash needed and General Aircraft Supply Corp. was launched. From this modest start, the company's record has been one of growth, small but steady.

Now as a wholly owned subsidiary of Airwork, its inventory jumps to about \$250,000 and this doesn't include stocks of Central Aero Supply at Cleveland and Philadelphia, operations that Zygmunt takes over as part of the Airwork deal.

Back in 1939, General handled between 50 and 100 basic items; no radio and no radio equipment. Today it stocks some 20,000 different items including 100 different product lines from AN hardware to autopilots.

"It took a lot of years to select lines necessary to keep a plane in the air," Zygmunt said. "In 1939, there were less than a dozen shock mounts common to all aircraft. Today, several hundred types are available. Similarly,

there are more stall warning indicators, landing speed indicators, more practical and reliable radio equipment and a host of other safety devices, with new and superior items being introduced each year.

"Today's four-place airplane is better equipped than the transcontinental airliner was prior to World War II," Zygmunt declared. "And, in terms of what the equipment will do, the aircraft owner is buying more safety for less money and less weight per package."

Big change in recent years, Zygmunt pointed out, has been in merchandising. Like aircraft, parts and accessories are being designed and styled for eye appeal as well as performance and safety. "The corporate aircraft owner who spends thousands of dollars on decorating the interior of his plane doesn't want it spoiled by an unsightly knob on a piece of equipment."

General has been concentrating on trying to reduce the sharp seasonal fluctuation in the aircraft parts business by promoting overhaul and accessory work during the winter months. "Shops are less busy then, work can be done more economically, and the plane can be ready to go instead of being laid up when good flying weather comes. But it

has been hard to sell, although sales drop less during the winter months now than they did five years ago," Zygmunt declared.

General Aircraft has a fleet of three Cessna 180s and rents the balance of aircraft used to keep its nine salesmen on the road. "We prefer to rent rather than maintain a large fleet of our own since our requirements vary. It is more economical than paying hangar rent when the planes are not flying," said Zygmunt.

Every pilot-salesman's aircraft is equipped with the products he sells, making on-the-spot demonstrations easy. At one time, the company had a Piper Tri-Pacer equipped with DME plus \$5,000 worth of other gear, making the equipment more valuable than the plane. General has sold more DME units than any other distributor in the country.

Flight clinics popular

One of the most popular services General has been rendering fixed base operators in their merchandising effort is its flight clinics. These clinics are designed to acquaint pilots with radio procedures and how to get optimum use from omni equipment.

According to Zygmunt, General carries the largest on-the-shelf list of required technical type equipment of any aircraft parts and accessories distributor in the country. It has concentrated on working closely with the fixed base operator, large or small, and on promoting safety items.

Sales in the first quarter of 1959 from its Detroit operation showed an increase of 36% over the first quarter of 1958. As a result of its merger with Central Aero Supply, General Aircraft now has an eight-state territory, including Michigan, Ohio, Indiana, New York, New Jersey, Pennsylvania, Delaware and Maryland. It has a sales target of \$2.25 million for this year. Business usually soars following a good sales year for aircraft and the past two years have been good, swelling the market for new equipment and replacement parts.



Big step by Zygmunt in expanding General Aircraft was recent merger with Airwork Corp. Zygmunt (left) is shown with Airwork president Francis Hine.



CONTINENTAL'S VISCOUNT NET PROFIT \$1.3 MILLION IN FIRST 7 MONTHS!

With an average fleet of nine* new Viscount 810 (Viscount II) jet-props, Continental Airlines recently reported a net profit of \$1.3 million. Direct cost per plane mile was 71.33 cents—nearly 11 cents below budget. These figures confirm those for the first four months of Viscount operation which showed that, with a break-even load factor of only 37.3%, the Viscount was easily the most economical to operate of Continental's aircraft.

Mr. Robert Six, President of Continental, paid tribute to the Viscount's major contribution in the airline's \$1 million operating profit for the fourth quarter of 1958. And he looks forward to 1959 as "the best year in the airline's 25-year history."

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*Continental's Viscount II fleet average was nine for the 7-month period ending December 31, 1958. Delivery of the airline's total order of 15 new Viscounts is now complete.



Detroit Metro: Long on Future, Short on Space

By MEL SOKOL

One of the newest, no doubt the "hottest," airport developments in the U.S. is Detroit's Metropolitan Wayne County Airport.

It's a beehive of activity. A mixture of many things. A new smartly-designed terminal filled to capacity only six months after it opened. The cause for a complex airport-airline lawsuit. It's an accomplishment that only a few years ago would have been rated impossible in Michigan politics.

Last month Delta Air Lines transferred its operations to Metropolitan bringing to four the roster of carriers that have made the move since October. Northwest has been there since November. On October 1, American and Allegheny brought domestic service into Metropolitan's new \$7 million passenger terminal.

Northwest reports a 36% increase in Detroit business since the shift, feels it has yet to reach the full potential. American and Delta are exploiting the advantages of the new location to the hilt. The heat is on the seven carriers still at Willow Run.

The big question is: Will they follow suit? They may have to. For one, the FAA's National Airport Plan makes no provision for expansion of Willow Run as a commercial jet airport.

It's longest runway is 7,341 ft. Metropolitan has a 10,500 ft. ILS runway now being equipped with flashing sequence approach lights. Willow Run is 31 miles from downtown Detroit, 12.3 miles farther out than Metropolitan.

And Metropolitan has facilities which cannot be duplicated by any other airport in the area. Including runway clear zones, it now comprises over 3,000 acres. An additional 107 acres are now being acquired. It is protected by zoning 10 miles beyond its boundaries. Its zoning ordinance, adopted by Wayne County, has been commended by FAA as a model for the nation.

Airport superintendent Douglas Wolfe's big problem is how to handle the additional airline business if it comes his way. The summer may tell the story.

If the answer is yes, the Board of Wayne County Road Commissioners, which operates Metro, will take steps to add facilities. County highway engi-



Light, air and plenty of room is overriding theme in Metropolitan's terminal design.

neer J. W. Gross, ex officio manager at Metro, figures about \$17 million (less federal aid) will be needed for the expansion.

A meeting is scheduled this month between county and airline officials at which airport consultants Landrum & Brown will present cost studies based on needs supplied by the carriers. An earlier session was held in February.

Gross figures that the \$17 million will break down into: \$8 million for terminal expansion, \$6 million for new hangars and another \$3 million for runway and taxiway improvements.

The commissioners figure it will take 30 months from the date the Willow Run carriers sign up to draw plans, finance and build new facilities. If agreement can be reached before the end of this year, completion would be assured by September 1962 when the carriers' contracts at Willow Run expire.

Metropolitan has more than big runways and a good location. Its new ter-

minal is spacious, bright, uncluttered (see cover). And the management intends to keep it that way.

Windows stretch along the entire length of loading fingers and to the height of all sides of the terminal. The main terminal is designed for an additional (4th) floor, can be expanded about 200 ft. in width over its present 300 ft. x 200 ft. measurements.

The terminal is geared for the jets. It is air conditioned and soundproofed throughout, including two loading concourses. One is occupied by American; the other shared by Pan American, BOAC, NWA, Delta and Allegheny, and includes customs, immigration and public health inspection facilities.

Metropolitan's superintendent Wolfe claims Metro is the only airport in the U.S. where baggage on occasion beats the passenger to the self-claim area. More often it's a draw.

The baggage concourse is on the ground floor. Car rental, limo and other ground transportation services are lo-

A new gimmick: valet parking

Valet parking at Detroit Willow Run Airport is a brand new idea in passenger accommodations.

Inaugurated at the suggestion of the airlines last Dec. 1, valet parking proved so popular that initial capacity was expanded from 140 cars to the 250 cars. Fee charged is 75¢ plus the regular rates established for parking in the main lot of the terminal. These are: 15¢ for the first 30 minutes; 25¢ for the first two hours, and 10¢ for each additional hour, with a maximum 75¢ for a 24-hour period. Thus valet parking is available for a maximum charge of \$1.50 for 24 hours.

Average occupancy for the first six months has been 75%. To meet the competition, valet parking service was tried at Detroit Metropolitan, but was abandoned for lack of success.

AIRPORTS



Spacious ticket counters for the airlines using the new facility are a major attraction at Detroit's Metropolitan Airport. Ample room is provided for baggage to be weighed.

cated opposite. Helicopter Airways Service, a copter taxi operator, has a counter in the immediate area. One of three cocktail lounges in the terminal is a replica of the Boeing 707 lounge.

The terminal has a built-in airport hotel on the third floor operated by Avis. Its 38 rooms have averaged about 85% occupancy since November.

The only big cloud on the approach to Metropolitan is a legal issue. When Northwest and Delta shifted their operations there, Airline National Terminal Service Corp., which operates Willow Run, filed suit. The charge: NWA and Delta had not given 380 days prior notice before pulling out.

The airlines are in a strange spot. In one respect they are suing themselves. Seven carriers, including American, Delta and Northwest formed Antesco in 1947 to operate Willow Run for its owner, the University of Michigan. Now the airlines remaining at the

Ypsilanti location are not only competing with the carriers that have shifted to Metro, but through Antesco, are competing in airport operation with the Metropolitan installation.

And the airlines that are last to shift to Metropolitan may be faced with higher rental fees. This doesn't seem to bother them, however, as much as the prospect of remaining at a competitive disadvantage.

As engineer Gross explains, terminal expansion could not be financed on the same terms originally given American in 1957. Costs have gone up. And although Michigan law requires equal charges for all airlines, the state legislature is now considering a bill that would allow airlines to waive this right and the carriers are voicing no opposition to its passage.

Additional hangars probably will be financed by private capital. A private construction company has made over-

tures toward Wayne County, will form a subsidiary to lease land, build the hangars, lease them to airlines. Delta's hangar will be built on this basis; Northwest favors a similar deal. The hangar and airfreight terminal being built for AA was financed by a \$2.25 million revenue bond issue.

Here's How to Get Airport Planning Loans

Communities evidently don't know it, but they can get interest-free loans to cover costs of airport planning.

This money is available from a government agency with a long name: Community Facilities Administration of the Housing and Home Finance Agency. Its purpose is to overcome a major community problem—lack of planning funds. Yet it's received only five applications for airports in four years.

Loans can be used to complete the engineering and other plans necessary before federal aid can be made available by FAA. Money doesn't have to be repaid until construction is started or contracts are awarded.

Who's eligible? Any nonfederal public agency that has legal authority to plan, finance and construct a public project. Funds can be used for preliminary or final planning or both. Apply to the regional HHFA office for your area. Here's the list:

Region I—Room 906, 346 Broadway, New York 13, N.Y., serving New York and New England. Phone: REctor 2-8000.

Region II—Room 1004 Widener Bldg., Chestnut & Juniper Sts., Philadelphia 7, Pa., serving Middle Atlantic states. Phone: LOcust 8-0400.

Region III—Room 645, Peachtree-Seventh Bldg. NE, Atlanta 23, Ga., serving South Atlantic states. Phone: TRinity 6-3311.

Region IV—Room 2000, Bankers Bldg., 105 W. Adams St., Chicago 3, Ill., serving upper Midwest states. Phone: Harrison 7-4700.

Region V—Room 2000, Federal Center, 300 W. Vickery Blvd., Ft. Worth 4, Tex., serving lower Midwest. Phone: Edison 5-5341.

Region VI—Third floor, 989 Market St., San Francisco 3, Calif., serving West Coast, Hawaii, Alaska and Guam. Phone: Klondike 2-2350. Another Region VI office in Federal Office Bldg., 909 First Ave., Seattle 4, Wash., for Washington, Oregon and northern Montana. Phone: Mutual 3-300.

Region VII—1608 Ponce de Leon Ave., PO Box 9093, Santurce 17, Puerto Rico. Phone: San Juan 3-5695.

Six Months at Detroit Metropolitan

	1958			1959		
	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.
Plane Movements:						
Airline	3,570	3,415	3,829	3,036	3,422	4,358
Itinerant	8,090	5,799	3,999	3,269	4,106	5,737
Local	4,974	3,494	2,960	2,677	3,333	3,867
Passenger arrivals and departures	72,358	63,578	55,901	49,507	58,658	74,956
Airfreight (lbs.)	4,689,523	6,067,418	7,138,330	3,675,392	3,466,761	3,856,674
Cars in paid parking lot	39,962	30,817	21,940	19,582	23,502	33,745
Admissions to observation deck	*	*	1,547	1,208	3,351	11,576
Bus pass. to and from Detroit	*	*	11,888	11,467	13,335	14,643

* Not reported

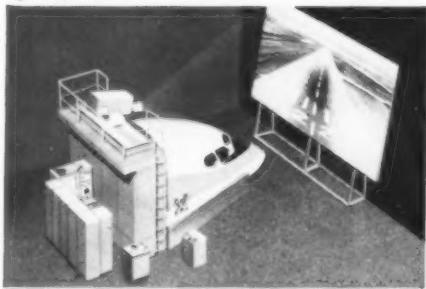
Gross Revenue from Concessions

	DECEMBER	JANUARY	FEBRUARY	MARCH
Gift Shop	\$19,372	\$16,229	\$18,823	\$21,744
Insurance	6,644	7,063	9,490	10,735
Restaurant—food	93,130	89,409	88,851	108,457
liquor	17,262	17,016	19,448	22,597



▲ Responding to simulator controls, TV Camera scans scale model of any desired airport.

Airport is projected on wide screen to give pilot visual approach, landing, and take-off experience.



*Visulator is the trademark of Curtiss-Wright Corporation

SWISSAIR selects the VISULATOR* for its DC-8 and CONVAIR 880 Jet Simulators

Swissair—a veteran in simulator training for its precision operations over worldwide routes—now has added the most modern device in flight simulation: the Curtiss-Wright Dehmel Visulator. The Visulator system, which can be used with virtually all types of electronic simulators in use today, will serve both the DC-8 and Convair 880 simulators in the Swissair jet training program. The Visulator provides realistic VFR take-offs, approaches and landings by means of closed-circuit TV and a specially designed optical system. It simulates 10 square miles of airport and terrain with a 3-dimensional model just 8 by 17½ feet. Models of any airport in the world can easily be put into position. The system is "unprogrammed"—that is, the pilot is free to fly as he wishes, and what he sees is the result of his own actions. The Visulator responds accurately to all controls as the "aircraft" accelerates, rolls, pitches, climbs out . . . or encounters various weather or emergency conditions introduced by the instructor.

Curtiss-Wright Dehmel Simulators provide instrumentation, sound and motion. The new Visulator adds the final touch of realism—sight—to simulator training. Write for complete engineering data.

ELECTRONICS DIVISION
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EXTRA SECTION

By FRED S. HUNTER

Don't be surprised if Boeing and North American Aviation get together on a joint arrangement for the design and development of a supersonic jet transport. It would be a logical setup.

Each company could contribute substantially to a team program. They already are working together in the areas of Mach 3 through Boeing's subcontract from NAA to make the wing for the B-70 bomber. What's more, a good personal relationship exists between these two companies. J. H. Kindelberger, chairman of NAA, and William M. Allen, president of Boeing, speak the same language.

This is not to imply that Boeing and NAA will be launching an all-out program tomorrow. At the annual meeting of stockholders, J. L. Atwood, NAA president, said he did not have a good feeling for the timing for a Mach 3 transport, but added that he thought it might be a good many years before the airlines would be willing to invest in such a high speed aircraft. On the other hand, he let the stockholders know that if the B-70 bomber can be converted to a transport "we will not let the opportunity go by."

Helicopter Efficiency

We made a trip east a few weeks ago by jetliner, but after it was over we found ourselves debating whether it was the fast, smooth flight of American Airlines' Boeing 707 or the convenience of the Los Angeles Airways helicopter connection that impressed us more.

As far as we are concerned, the big thing about the jets is the speed. We had one of these superb flights: smartly executed takeoff and landing, smooth air all the way, no turbulence, a good stewardess crew providing better-than-average cabin service, all the niceties of a good trip. But when you have added everything up—including the absence of vibration—you come back to the big fact that you made it across the country in less than five hours.

More Time Saved

We saved three hours by taking the jet. We saved another hour or more by taking a Los Angeles Airways helicopter from North Hollywood to the Los Angeles International Airport. It so happens we abide in the San Fernando Valley at a location well within the city limits, but 20 miles from the airport. There is limousine service, at a fare of \$2.50 per passenger, between the San Fernando Valley and the airport, but it isn't very frequent and the pickup point is a substantial distance—

about a \$2.50 cab ride—from our home.

To have caught AA's Trip 2 at 8:45 a.m. via cab and limousine we would have had to leave the house not later than 6:30 a.m. Instead, we left at 7:40 a.m. by making use of the helicopter service from North Hollywood! Moreover, we saved money. It costs only \$2 added to the price of an airline ticket to include the helicopter flight under the joint tariff arrangements between Los Angeles Airways and the trunks.

The trouble with the helicopter service is the lack of frequency. There are four flights a day between North Hollywood and the Los Angeles Airport. There should be 14. The CAB is to be commended for the enterprise it has shown in the development of helicopter passenger service at Los Angeles, Chicago and New York, but it ought to do more to encourage its expansion.

Heliports and Helistops

Flight time from North Hollywood to the Los Angeles Airport is 17 minutes as compared to at least an hour by surface transportation. We might add that you feel a sense of security in the helicopter compared to surface travel on the traffic jammed highways. North Hollywood, incidentally, is what Clarence Belinn, Los Angeles Airways president, calls a "helistop." It isn't busy enough to be a "heliport." Heliports are manned by part-time agents who are paid by the trip. Heliports are staffed by salaried employees of the company. Disneyland is Los Angeles Airway's top heliport, and the one with the most glowing future. "Disneyland," says Belinn, "will be another Dallas."



LAA's Clarence Belinn
Disneyland . . . Another Dallas

Super Electra Next

Lockheed has an important transport decision coming up about July 1. This applies to the Super Electra for 1962 or 1963, which would have a speed of 475 mph. Lead times will require Lockheed's management to decide on the course it will pursue. Indicative of an affirmative decision was inclusion of "a second model of the Electra" for 200- to 1,800-mile ranges in Lockheed's five-phase air transport system of the future, as outlined by Robert A. Bailey, chief engineer of the California division. This was the same talk in which Bailey said a 2,000 mph transport could be delivered in five years after a firm order.

Some help from Allison, of course, will be required for Lockheed to develop the Super Electra. The engine manufacturer will have to upgrade the 501 turboprop to meet Lockheed's higher performance requirements and this will involve something more than the previously scheduled power step-up from the 3,750 eshp of the present Dash 13 engine to the 4,050 eshp of the Dash 15 engine. Allison has been quite cooperative on the Electra in the past, so it seems reasonable to assume that it will go along on an investment in the Super Electra with Lockheed.

Nostalgic Note

It seems only yesterday that Norman Geiger ran a one-man office for Continental Air Lines in Los Angeles and could be seen going from door-to-door on Sixth Street (airline row) carrying a fist full of timetables and making friends with travel agents, other airline personnel and similar sources of off-line revenues. Today, CAL has the distinction of having been the first airline to bring turboprop service (Viscounts) to Los Angeles and effective June 8 it will have the added distinction of being the first airline to have both turbojets (Boeing 707s) and turboprops operating at the Los Angeles Airport. Its maintenance base is being extended to handle all the maintenance on the 707s. Los Angeles becomes a domicile for pilots with the introduction of the 707 service, and the latest move is the transfer of its stewardess school from Denver to Los Angeles.

Weight of Language

Boeing 707 jets will use a total of 22 different languages in passenger warning or information signs. Fitting the proper phrasing in each language into a sign of the same size is a big problem because the space and weight possibilities are restricted.

REPORT ON OPERATIONS



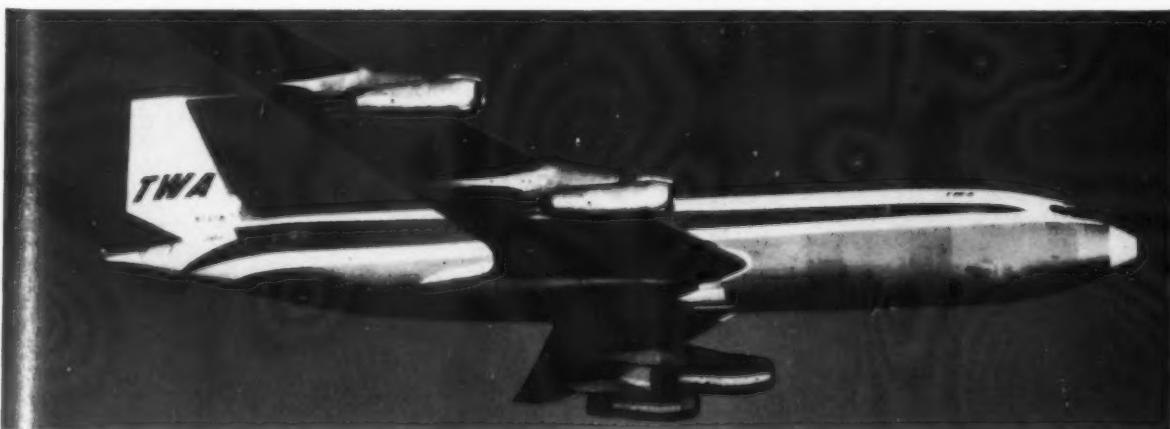
IN SERVICE, the Boeing 707 has set record after record, both for performance and passenger appeal. A Los Angeles to New York passenger flight was made in 4 hours, 3 minutes. During the first 60 days of this service, the 707 averaged a load factor of more than 95%, an unprecedented high in passenger appeal.



RESERVATIONS in the thousands for flights months ahead have poured in. A noted aviation writer reports: "The tremendous public acceptance of the 707s and their great revenue-producing ability have been among the most significant commercial-aviation developments since the Second World War."



THE 707 has broken all trans-Atlantic airliner records, flying New York to Paris in 6 hours, 4 minutes, and New York to London in 5 hours, 41 minutes. 707 passenger loads to Europe have been at record levels averaging a winter load factor of 94%. In addition, 707s carried up to 5 tons of mail and cargo each flight. Boeing jets are profit-making jets. Seventeen airlines have ordered a total of 190 Boeing jetliners—a reflection of confidence in Boeing, the world's most experienced builder of multi-engine jet aircraft.



707s NOW LINK San Francisco to New York in 4 hours, 50 minutes. Here again, 707s have set new records for speed and passenger appeal. Over both trans-continental and overseas routes, 707s have demonstrated tremendous earning power, extremely high initial utilization and unprecedented public acceptance.

BOEING

Family of jet airliners

These airlines already have ordered Boeing jetliners: AIR FRANCE • AIR INDIA • AMERICAN • B.O.A.C. • BRANIFF • CONTINENTAL • CUBANA • IRISH LUFTHANSA • PAN AMERICAN • QANTAS • SABENA • SOUTH AFRICAN • TWA • UNITED • VARIG • Also MATS

SALES TALK

By ERIC BRAMLEY

Continental Introduces 'Airborne' Ticketing With 707s

Your jet ticket will be collected—or, if you don't have a ticket, you'll be sold one—after your Continental Air Lines' Boeing 707 is in the air.

This radical change in procedures, designed to reduce jet passengers' pre-flight "standing time," will be introduced by CAL when it starts Chicago-Los Angeles 707 service on June 8.

A departing passenger will check his bag at a scale in the airport terminal and board the plane—whether or not he has a ticket. After the flight is on its way, a "director of passenger services" will pick up tickets, collect fares from those without tickets, and collect for excess baggage. This employee, who's been with CAL a minimum of five years, is in charge of all in-flight passenger service. Four stewardesses will be aboard.

To collect and sell tickets, the director, attired in a Navy blue blazer with gold insignia and gray flannel slacks, will use a wheeled cart with validator, cash drawer and other equipment.

He will use a radio-telephone to CAL offices to make connecting airline reservations, request hotel space or rent-a-cars, and to handle possible passenger problems.

How are passengers who have no reservations prevented from boarding? If the plane is sold out, names are checked at the gate and those who aren't on the list are asked to step aside. If space is available, CAL couldn't care less whether the people have reservations.



Tickets are lifted aboard Continental's Boeing 707 by Dick Jones, one of the company's directors of passenger service. Ticket validator is on the wheeled cart in the foreground.

If a passenger has excess baggage, he's notified when he checks the bag before boarding, and the amount of excess is noted on the manifest placed aboard the plane. If, when time comes to settle the bill, the passenger denies that he has excess or refuses to pay, CAL doesn't argue—the passenger service director informs him that to settle the matter his baggage will be weighed again upon arrival.

The new procedure was originated by Lynn H. Dennis, CAL's vice president-customer service planning. It's been tested aboard Viscount flights, and Dennis says the reaction has been 100% favorable. And, he adds, it won't increase costs—fewer people are needed on the ground.

Allegheny Puts Hawaiian Hostesses on New Plane

Hawaiian hostesses serving exotic fruit juices and snacks, and a plane with green and pink paint on the fuselage will be unusual features of Allegheny Airlines' "Leilani" flights this summer with a Canadair 540 turboprop.

The plane, leased from Napier Engines Inc. for three months, will go into Pittsburgh-Atlantic City-Washington service July 1. It will be painted surf green and coral pink—with hibiscus flowers. Hawaiian Airlines and Aloha Airlines are training the eight hostesses, most of whom are University of Hawaii students.

Smart interline public relations: At Chicago, two local service reservationists presided over the ribbon-cutting to start American Airlines' Chicago-Washington Electra service. They received corsages, bouquets, had a chauffeur-driven limousine, lunch at the Pump Room.

Seating shift is being made by American on its Boeing 707s. AA started service with 56 first-class and 56 coach, then changed to 68-38 because demand was greater for first-class. Now it's returning to 56-56 because of the upcoming vacation season . . . AA's 707 will be featured on a Glenn Miller orchestra record album cover this summer.

Twenty-five roundtrips a day are being operated on weekends by Los Angeles Airways between Los Angeles International Airport and Anaheim/Disneyland.

Friends will be won by Hawaiian Airlines through its sponsorship of a publication entitled "Hawaii, U.S.A." Since Hawaii became a state, there's been a tremendous demand from businessmen, school teachers and others for information about the islands. This publication is designed to answer all the questions. It's newsy and informative.

More than \$1 million worth of transportation is involved in a contract between Eastern Air Lines and Gibson Re-

frigerator Co., Greenville, Mich. Under its sales incentive program, Gibson will fly some 5,000 distributors, dealers, salesmen and their wives from 39 U.S. cities to Puerto Rico in September and October. EAL will provide 63 roundtrip charter flights.

Air travel plan continues to grow. It now has 84,782 subscribers, with 881,077 cards outstanding. Most of the cardholders—597,658—are residents of North America.

A departure from its serious ad format has been made by Panagra, which is running cartoon-type ads in the *New Yorker* and in travel trade publications. Ads point out humorously that "place droppers" are losing face in the international set when they try to compete with travelers to South America . . . All Panagra's DC-6s and DC-7s have now been converted to combination first-class/tourist.

Stepped-up U.S. sales effort by Lufthansa includes recent opening of offices in Buffalo, Kansas City, Milwaukee, Minneapolis and St. Louis.

New publications: United Air Lines has distributed to sales personnel and travel agents its 84-page "Mainliner Holidays Catalog," covering airline tours and vacations. Complete ticketing instructions are included . . . Pan American has prepared "A Woman's Way to See Europe," which it says is the first jet travel booklet written especially for women. Among the tips: jet speed eliminates the need for carrying bulky cosmetic cases on board; use a pinker shade of powder when flying at night—it's more flattering beneath the lights . . . "Skyliner Tours of Europe" is off the press at TWA . . . Capital has sent out 2,500 copies of its 126-page "Fun Vacations" book.

A television set will be installed in the first-class lounge of Continental's Boeing 707. Company says the reception from 35,000 ft. is "amazingly good." CAL has been using four-color full-page ads in Sunday magazine sections of Los Angeles, Chicago, Denver and Kansas City papers to kick off 707 service.

New gimmick in food service has been added by Swissair. When buying tickets from any of the airline's North American offices, or a travel agent, deluxe and first-class passengers are asked what they'd like for dinner. They're handed a long menu with 36 specialties—six hors d'oeuvres, three soups, 10 main courses, six desserts—plus liquor, champagne, fruit, etc. Their selections are mailed to Swissair's Idlewild catering department at least 48 hours before departure. Prior to serving the meal, the hostess gives the passenger his personalized menu as a souvenir. The airline expects the plan to cut down on the amount of food that must be carried on the plane. Swissair hastens to add that food will be available for people who do not have time to fill out the menus.

Attractive and useful pamphlet entitled "You'll Love Flying" has been printed by Western Air Lines. It contains 20 helpful illustrated tips for the uninitiated air traveler, including instructions for making reservations, checking in at airports, making ground transportation arrangements, etc.

AIRLINES REPORT EXECUTIVE SALARIES

Annual reports of 1958 salaries of officers of the following airlines have been filed with the Civil Aeronautics Board. These figures are taken from Schedule G-42 reports. Figures given are salaries unless otherwise stated. Where date of entry into office is shown, the salary covers the period beginning at that time.

This completes the listing of all salaries, expenses and bonuses now on file with the Board. Information covering 27 other carriers was published in *AIRLIFT* for May.

PAN AMERICAN WORLD AIRWAYS

OFFICERS: J. T. Tripp, pres. & dir., \$60,000, \$8,470 expenses; W. L. Morrison, exec. v.p.-LAD, \$36,000, \$15,000 bonus & indir., \$6,520 expenses; H. E. Gray, exec. v.p.-AD, \$36,000, \$16,000 bonus & indir., \$3,160 expenses; R. B. Murray, Jr., exec. v.p.-PAD, \$32,000, \$9,000 bonus & indir., \$16,337 expenses; Roger Lewis, exec. v.p.-dev. & defense projects & dir., \$36,000, \$15,000 bonus & indir., \$4,480 expenses; J. C. Leslie, v.p.-adm. & dir., \$35,000, \$14,000 bonus & indir., \$5,488 expenses; S. F. Pryor, v.p. & asst. to pres. & dir., \$32,000, \$9,000 bonus & indir., \$4,056 expenses; H. J. Friendly, v.p., gen. counsel & dir., \$33,000, \$14,000 bonus & indir., \$1,895 expenses; Franklin Gledhill, v.p. & dir., \$34,000, \$14,000 bonus & indir., \$13,210 expenses; W. G. Lipscomb, v.p.-traffic & sales, \$34,000, \$15,000 bonus & indir., \$11,499 expenses; J. B. Gates, v.p.-finance, \$30,000, \$6,000 bonus & indir., \$5,461 expenses; A. P. Adams, v.p.-\$30,000, \$8,000 bonus & indir., \$13,094 expenses; Erwin Balluder, v.p., \$28,000, \$7,000 bonus & indir., \$9,650 expenses; J. C. Pirie, v.p. & associate general counsel (12/2/58), \$1,772, \$4,000 bonus & indir., \$603 expenses; C. M. Young, v.p., \$21,500, \$8,000 bonus & indir., \$8,908 expenses; R. B. Adams, v.p., \$27,000, \$6,000 bonus & indir., \$7,773 expenses; A. Jackson Kelly, v.p., \$20,555, \$2,500 bonus & indir., \$5,837 expenses; H. W. Toomey, v.p., \$20,000, \$7,021 expenses; N. P. Blake, v.p. (4/15/58), \$14,250, \$2,000 bonus & indir., \$3,507 expenses; H. H. Berke, v.p.-services of supply, \$25,000, \$7,000 bonus & indir., \$7,010 expenses; E. M. Goulder, v.p.-industrial relations, \$20,000, \$4,000 bonus & indir., \$6,686 expenses; R. S. Mitchell, v.p.-GMRD, \$26,000, \$7,000 bonus & indir., \$6,547 expenses; R. G. Ferguson, treas., \$27,000, \$7,000 bonus & indir., \$2,750 expenses; J. S. Woodbridge, comptroller, \$27,000, \$7,000 bonus & indir., \$3,463 expenses; H. P. Morris, secy. & general attorney, \$14,000, \$2,750 bonus & indir., \$202 expenses; S. B. Kauffman, asst. v.p.-engineering, \$20,000, \$5,000 bonus & indir., \$3,009 expenses; W. W. Lynch, asst. v.p.-communications, \$24,692, \$3,500 bonus & indir., \$10,242 expenses; J. C. Cone, asst. v.p., \$16,000, \$4,000 bonus & indir., \$27,447 expenses; W. J. McEvoy, asst. v.p., \$13,000, \$2,000 bonus & indir., \$12,725 expenses; R. E. Smith, asst. v.p. (6/11/58) \$11,111, \$1,500 bonus & indir., \$7,878 expenses; H. M. Blackwell, asst. v.p.-SOS (4/1/58) \$11,625, \$1,500 bonus & indir., \$350 expenses; R. P. Monson, asst. treas., \$17,000, \$5,000 bonus & indir., \$2,685 expenses; J. E. McGuire, asst. comptroller, \$15,000, \$2,500 bonus & indir., \$6,148 expenses; E. G. Rothrock, asst. secy., \$12,750, \$1,000 bonus & indir., \$4,376 expenses; J. J. Cantwell, asst. secy., \$9,500, \$750 bonus & indir., \$1,375 expenses; Josiah Macy, Jr., asst. secy., \$13,250, \$1,000 bonus & indir., \$213 expenses.

NOTE: *—Date entered office.

LAKE CENTRAL AIRLINES

OFFICERS: Joseph J. O'Connell, chm. of board, \$40,400, \$859 expenses; Gwin Hicks, pres. & dir., \$17,500, \$2,500 expenses; L. W. Hartman, exec. v.p., treas. & dir., \$18,250, \$976 expenses; William H. Krieg, secy. & dir. no salary; R. W. Clifford, v.p., dir., \$14,500, \$769 expenses; Harvey Goff, flight capt. & dir., \$13,172, \$616 expenses; A. E. Sabo, chief pilot & dir., \$13,560, \$105 expenses; D. S. Getchell, v.p., \$12,750, \$448 expenses; J. L. Cory, asst. treas., \$9,225, \$55 expenses; J. R. Carr, Jr., asst. secy., \$100 fee.

AAXICO AIRLINES

OFFICERS: Howard J. Korth, pres., \$104,000; Jean G. Harvey, v.p., \$22,200; E. P. Odenwalder, secy.-treas., \$10,650; Oliver F. Stern, v.p.-sales, \$12,000; J. A. Young, v.p.-operations, \$10,500; William L. Hanks, chief pilot, \$13,800.

AEROVIAS SUD AMERICANA

OFFICERS: V. V. Carmichael, Jr., pres., \$15,000; C. Booker Powell, v.p., \$9,000 salary; W. M. Bussey, secy., \$3,600; W. M. Dunn, Jr., v.p., \$10,920; M. K. William, v.p., \$9,900; R. S. Buchanan, asst. secy., \$1,388 salary; J. M. Rodrigues, treas., \$10,560; C. W. Shappard, asst. treas., \$7,800.

FLYING TIGER LINE

OFFICERS: Robert W. Prescott, pres. dir., \$50,000 salary; Fred Benninger, v.p.-treas. \$30,000; William E. Brantling, v.p., \$9,000 salary; George T. Cussen, v.p., \$16,667; Leonard S. Kimball, v.p., \$12,350; Frank B. Lynn, v.p., \$25,000; Neil B. Bartholomew, v.p., \$15,000; John L. Higgins, v.p., \$18,125; George S. Oberdorfer, v.p., \$15,000; Vladimir F. Zimmerman, v.p., \$15,300; O. R. Burghardt, secy. & asst. treas., \$16,000; Ralph B. Stump, asst. secy. & dir., \$11,725; Norman L. Meyers, asst. secy. & dir., \$11,725.

SEABOARD & WESTERN

OFFICERS: R. A. Norden, pres. & dir., \$35,000; A. V. Norden, exec. v.p. & dir., \$35,000; C. D. Brell, v.p.-operations, \$25,000; E. O. Schroeder, v.p.-maintenance, \$25,000; W. P. Neff, v.p.-traffic, \$22,500; W. H. Renninger, v.p.-engineering, \$18,000; H. Montee, v.p., Washington, \$17,500; A. Thomson, v.p.-comm. service, \$15,000; J. A. Mahoney, v.p.-ind. & govn. affairs, \$15,000; S. I. Fondler, comptroller, \$14,500; J. H. Rosenwald, v.p.-admin., \$13,500.

SLICK AIRWAYS

OFFICERS: D. W. Rentzel, chm. of board, \$7,750, \$11,333 expenses; William E. Miller, asst. secy., no salary, \$150 expenses; Alwin W. Johnson, exec. v.p. & dir., \$25,000, \$2,314 expenses; John W. Walbert, secy. & dir., (4/15/58), \$16,670, \$2,319 expenses; Henry P. Huff, Jr., v.p.-operations & maint., \$20,000, \$3,601 expenses; John E. Muhlfeld, v.p.-sales & traffic (3/31/58**), \$6,507, \$1,224 expenses; Herman J. Ruppel, treas. (10/31/58**), \$15,323 expenses; J. H. Malona, asst. treas., (4/15/58**), \$10,933, \$497 expenses. NOTES: *—Date entered office.
**—Date resigned.

CHICAGO HELICOPTER AIRWAYS

OFFICERS: John S. Gleason, Jr., pres., treas. & dir., \$12,000, \$676 expenses; C. W. Moore, exec. v.p. & dir., \$20,000, \$2,334 expenses; Robert B. Kiel, asst. secy.-treas., \$11,500, \$972 expenses; Robert A. Angstadt, v.p.-operations, \$15,500, \$1,716 expenses; John C. Brogen, v.p., secy. & dir., \$7,200, \$377 expenses.

NEW YORK AIRWAYS

OFFICERS: Robert L. Cummings, Jr., pres. & dir., \$20,425, \$5,482 expenses; Horace Brock, v.p. & dir., \$16,425, \$1,052 expenses; Jack E. Gallagher, v.p., \$14,750, \$5,818 expenses; William W. Hogan, treas. & dir., \$11,989, \$1,268 expenses; Glen B. Eastburn, asst. to pres. & asst. treas., \$9,750, \$54 expenses; Gerald J. Glynn, asst. treas., \$7,556, \$94 expenses; Florence Peters, asst. secy. (6/2/58), \$2,332, \$20 expenses; Agnes Fallon Peters, asst. secy. (7/11/58**), \$3,004, \$59 expenses. NOTES: *—Date entered office.
**—Date retired.

ALOHA AIRLINES

OFFICERS: Ruddy F. Tongg, chm. of board, \$13,850, \$2,521 expenses; Dr. Hung Wo Ching, pres. & dir., \$13,011, \$1,140 expenses; David A. Benz, exec. v.p. & dir., \$13,800, \$3,399 expenses; Clarence D. Young, v.p., treas. & dir., \$12,650, \$670 expenses; Hung Wei Ching, v.p. & dir., no salary, \$300 expenses; Yau On Leong, v.p. & dir., no salary; Kan Jung Luke, v.p. & dir., no salary; Walton E. Wood, v.p., \$12,300, \$3,661 expenses; Harry C. Wong, secy., no salary.

HAWAIIAN AIRLINES

OFFICERS: Arthur D. Lewis, pres. & dir., \$31,313, \$6,775 expenses; Brian Cooke, v.p. & treas., \$20,750, \$3,172 expenses; Lionel D. Machado, v.p.-operations, \$20,750, \$3,444 expenses; Jack C. Tobin, v.p.-sales, \$20,750, \$5,176 expenses; Lambert P. Irons, secy., \$10,617, \$542 expenses; George K. Tanabe, asst. treas. & asst. secy., \$11,060, \$1,411 expenses.

ALASKA AIRLINES

OFFICERS: Charles F. Willis, Jr., pres. & dir., \$25,031; Richard W. Gilbert, sr. v.p. & secy., \$15,004; R. H. Herrnstein, treas. & compt., \$12,013; LeRoy H. Peterson, v.p.-sales, \$12,013.

ALASKA COASTAL AIRLINES

OFFICERS: Sheldon B. Simmons, co-manager, \$18,000, \$2,232 expenses; O. F. Benecke, co-manager, \$19,500, \$2,021 expenses.

CORDOVA AIRLINES

OFFICERS: Merle K. Smith, pres. & dir., \$20,000; Richard R. Borer, v.p. & dir., no salary; Glen Dillard, secy. & dir., \$13,500; Asa L. Martin, dir., no salary; David P. Swanson, v.p.-operations, \$12,000.

ELLIS AIR LINES

OFFICERS: R. E. Ellis, pres., \$16,200; G. A. Bodding, v.p.-operations, \$15,000; N. T. Gerde, secy. & treas., \$14,200; J. L. Sherman, v.p.-maint., \$13,200.

NORTHERN CONSOLIDATED AIRLINES

OFFICERS: Raymond I. Petersen, pres. & gen. mgr., \$24,417, \$2,785 expenses; S. B. Fitzhugh, v.p. & treas., \$15,767, \$1,507 expenses; Victor R. Davis, secy., \$11,880, \$571 expenses; Marie A. Petersen, asst. secy., \$4,800; Gordon R. Unwin, asst. treas., \$9,600, \$449 expenses.

PACIFIC NORTHERN AIRLINES

OFFICERS: A. G. Woodley, pres. & dir., \$35,300, \$3,611 expenses; J. A. Cunningham, v.p. & dir., \$16,800, \$433 expenses; H. A. Olsen, v.p., \$14,520, \$749 expenses; J. H. Foster, v.p., \$14,520, \$581 expenses; Felix Aubuchon, v.p., \$12,000, \$420 expenses; C. W. Nelson, secy.-treas. & dir., \$13,500, \$121 expenses; M. E. Diamond, asst. secy., \$8,400, \$150 expenses; D. B. Hart, asst. secy., \$9,702, \$244 expenses.

WIEN ALASKA AIRLINES

OFFICERS: Sig Wien, pres. & chm., \$20,000, \$239 expenses; George B. Rayburn, exec. v.p. & treas., \$18,958, \$2,146 expenses; Fritz Wien, v.p. & dir., \$17,000, \$157 expenses; Noel Wien, v.p.-public relations, \$16,500, \$1,517 expenses; A. E. Hagberg, v.p., \$16,500, \$1,794 expenses; R. M. King, secy., \$17,400, \$235 expenses.

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ABOUT PEOPLE

IN THE AIRLINES



Franklin



Whitlock

Capital Airlines has created two new executive positions and named **James B. Franklin** and **Marvin Whitlock** to fill the spots. Franklin, a veteran of some 25 years with Capital and an officer of the corporation for the past 10 years, was appointed senior v.p. for operations, and Whitlock, formerly v.p.-operations and planning for American Airlines, joins Capital as senior v.p. for engineering and maintenance.

David H. Baker, Capital's president, also announced that **M. J. van der Ploeg**, former deputy president of KLM, has been appointed his general adviser.

Rembrandt P. Lane, Jr., treasurer of Northeast Airlines, has assumed additional duties with the carrier as v.p.-finance. Lane was with Chase Manhattan Bank.



Lane



Taylor

William Taylor, who has been assistant to the president of Scandinavian Airlines System, Inc., since 1956, has been elected v.p. and assistant to the president in a move by the company's board of directors which elevated four officers of the organization. **George Hedman** was named v.p.-public relations; **Bardett M. Shaw**, v.p.-personnel and **Thomas M. Reilly**, vice president. SAS, Inc. is the American corporation which handles all matters for SAS in the U.S.

Floyd D. Hall has been elected v.p.-flight operations for Trans World Airlines in a major realignment of executive responsibilities for the airline. Other new officers elected by the board of directors

include: **E. Paul Burke**, asst. v.p. and executive asst. to the system general manager; **Henry D. Fellows**, asst. v.p.-schedule planning and market research; **A. E. Jordan**, asst. v.p.-maintenance and engineering; **J. T. Logan**, asst. v.p.-scheduling and **R. K. Rourke**, asst. v.p.-equipment planning and development.

Frank E. Busch was named to a new jet age position, that of v.p. of equipment retirement. **R. M. Dunn** is now v.p.-technical services; **T. K. Taylor**, v.p.-Washington office and **Robert W. Rummel** v.p.-planning and research.

Carlos Aceves has been named general manager of traffic and sales for Guest Mexico, replacing **Ralph Carr**, who moves to SAS as regional mgr. for North Latin America.

Russell V. Stephenson has been appointed v.p.-personnel and **Remington R. Taylor** has been named asst. v.p.-maintenance and engineering for Mohawk Airlines.

Terrell S. Shrader, former administrator of industrial relations for Eastern Air Lines, has moved over to Western Air Lines as director of labor relations.

Harry Rand is new public relations manager for KLM Royal Dutch Airlines in the U.S. and **Michael J. Steed** has been appointed as press officer for the company in Great Britain.

Charles A. Glover, a former asst. v.p. and interline sales mgr. for EAL, has rejoined the company in the same position.

Jack M. Brown, who has been serving as an aviation consultant and technical advisor for Lockheed Aircraft Corp., has joined Aloha Airlines as director of operations.

Joseph H. Fitzgerald was named executive v.p. and general mgr. by Ozark Airlines. As executive officer, he will direct all activities of the airline. He was formerly director of CAB's bureau of air operations. **Laddie Hamilton**, board chairman and president, is on extended leave of absence because of ill health.

Walter F. Johnson, with National Airlines for the past 12 years has been promoted to v.p.-administration.

Robert F. Six, president of Continental Air Lines, will devote his full efforts to long range planning for the airline in the future and day-to-day operations will be directed by **Harding Lawrence**, executive v.p. Also at Continental, **Mark Kramer** is named v.p.-public affairs and **E. Bailey Ranes** is now v.p.-customer services.

AMONG SUPPLIERS

Sir Aubrey Burke, O.B.E., succeeds **W. E. Nixon**, retired, as chairman and managing director of de Havilland Holdings, Ltd.

Delbert L. Roskam has been promoted to v.p. in charge of aircraft divisions at



Hall



Rummel



Burke



Rex Smith



Weddle



Smith

Cessna Aircraft Co. and **V. G. Weddle** assumes the vacancy left by Roskam.

Stanley W. Smith, formerly with Bell Aircraft Corp., has joined Fairchild Engine and Airplane Corp. as chief engineer of the aircraft and missiles division.

David E. Postle, former v.p.-research for Mohawk Airlines and helicopter specialist in its trial operation of Sikorsky S-55s several years back, joins Kaman Aircraft Corp. as head of its commercial sales division.

IN THE AGENCIES

Lucius W. Burton, director of Washington National Airport, has been named by FAA as acting director of the new Bureau of National Capital Airports. **John V. Tighe**, CAA liaison officer at NAADC Headquarters, has been appointed special assistant to Deputy Administrator **James T. Pyle**.

OTHERS IN AVIATION

The American Helicopter Society elected **Ralph P. Alex**, Sikorsky Aircraft, president; **R. L. Suggs**, Petroleum Helicopters, secretary, and **Jack M. Cherne**, Vard, Inc., treasurer.

Charles Biondi has been elected v.p. of Aircraft Exchange.

Tom Basnight, ALPA air safety representative, is new secretary of the Air Traffic Control Association.

G. A. Connors has been elected v.p. of Emery Air Freight Corp. **John R. Wiley**, New York, is the new president of the Airport Operators Council and **Frank W. Hulse**, Birmingham, Ala., was re-elected president of the Aeronautical Training Society.

Chester H. Fliesbach has been elected chairman of Nebraska's Department of Aeronautics.

HONORS AND AWARDS

Frederick B. Ayer, president of Frederick B. Ayer & Associates was chosen "Young Man of the Year" by the Junior Chamber of Commerce . . . **Edward F. Runge**, Northeast Air Lines maintenance, won a \$921.25 suggestion award, highest in the airline's history . . .

Robert L. Litchten, Bell Helicopter Corp., received the Dr. Alexander Klemin Award for development of the XV-3 convertiplane . . . Engineers at Vertol Aircraft Corp. were presented the Grover E. Bell Award for work in rotary wing development.

OBITUARY

Rex Smith, 59, retired v.p.-public relations for American Airlines, died May 17 in New York of cancer. He had been hospitalized since March. Smith had a broad background in newspaper and public relations and joined American in 1945.

PAR AVION

By ANTHONY VANDYK

TAA is safe and cheap—A man with a faculty for making statistics live is J. L. Watkins, director of engineering for Trans-Australia Airlines. When he was in Amsterdam recently for the delivery of the first of TAA's 12 Fokker F-27s, reference was made to his airline's 100% passenger safety record. He pointed out that TAA's 4-million fatality-free passenger-miles is the equivalent of flying three-quarters of the entire population of Holland from Amsterdam to Geneva, Switzerland, without an accident!

Watkins also made an interesting comparison between Australian and European air fares. He pointed out that TAA charges \$16.80 tourist class from Melbourne to Sydney, a distance of 465 miles. On this basis, he observed, TAA would only charge one-third of the current IATA Amsterdam-London fare of \$25.80 for a flight over the 245-mile route! It is perhaps pertinent to add as a postscript to Watkins' remarks the comment recently made by Anthony Milward, chief executive of British European Airways, after a tour of Australia: "Australian airlines benefit from two great gifts to aviation, a remarkably poor train service with frequent changes of gauge, and weather conditions which are probably the finest in the world."

707 is a pleasant surprise—For the Boeing 707, Rome-Paris (700 miles) is just a 90-minute hop. We were well impressed with this short Pan American flight, our first in the Boeing jet. The noise level, even in the rear compartment was surprisingly low. And the spaciousness of the aircraft was something that we had not anticipated. Certainly three-and-three seating in a 707 is much more comfortable than three-and-two in a DC-7C. PAA's cabin service was superb and the food (presumably furnished by the ubiquitous Maxim's) was about as good as any we have ever sampled on a tourist flight within Europe. Particularly impressive was the new black and white plasticware on which the meal was served.

The only discordant note was struck by the presence of a TWA fork in the set of cutlery! The most unpleasant part of the journey was, as usual, prior to the flight. Although the departure is at 3 p.m. the flight is called at 2:30 because the Italian authorities require the 707 to be parked several hundred yards away from the terminal building at Rome's Ciampino airport. Passengers are shuttled to the aircraft in a bus and a type of station wagon. At Paris the French seem to let the 707 come as close to the terminal at Le Bourget as any other aircraft.

Viscount production vanishing—This is a period of transition for Vickers. We recently visited the company's plant at Weybridge and noted that at long last Viscount production is showing signs of coming to an end. Actually, Vickers has delivered all but about half a dozen of the 407 Vis-

counts on order. A further 10 are being built against anticipated orders for delivery in the late summer. Just when Viscount production will finally end is a matter for conjecture. Production facilities are being kept available by Vickers and new customers will be able to get 19-months delivery for 810s or 21-months delivery for 700 or 800 series Viscounts over the next several years.

Meanwhile, the main effort at Vickers is on the Vanguard which, although a very different aircraft, looks just like an oversized Viscount (one reason for this is the use of the same elliptical windows at the identical pitch). Two Vanguards are currently flying and some 1,500 hours of Vanguard flying is due to be accumulated before certification and delivery of the first aircraft to British European Airways next spring. BEA and Trans-Canada Airlines have each ordered 20 Vanguards. TCA's aircraft are due for delivery between June, 1960 and March, 1961. Vickers is building several Vanguards in anticipation of new orders coming in and the first of these will be available for delivery in late 1960.

Russian shortcut—Although it was BEA and not BOAC that started service from London to Moscow in May, the occasion could not help bringing to mind the long-established plans of the senior British airline to fly across Russia to the Near and Far East. A glance at a globe will show that it is significantly shorter from Europe to Japan via the Far North of the Soviet Union than by way of the recognized polar route via Alaska.

Since the Russians would be unlikely to authorize such a routing, BOAC's planning centers round a less unconventional route—via Moscow and Aeroflot's Trans-Siberian route to Peking or Mukden. Flying this way from London to Tokyo would be about 3,500 miles shorter than by traditional route via India. Even passing by way of Moscow and over Afghanistan, following a route which the Russians have already allowed a foreign carrier (Air-India International) to use, the saving is significant: flying from London to Calcutta this way would make the distance almost 1,000 miles less than by the traditional route via the Middle East.

Comet regularity—Comet 4 regularity during the first six months of scheduled operations with BOAC (October 4-March 31) was pretty good, everything considered. Of the 309 flights only 92 were actually on time but 220 (71%) arrived within an hour of schedule. An abnormally foggy winter was the biggest problem for BOAC, representing the largest single delaying factor (11.27 hours per 100 scheduled hours). The de Havilland jet transport experienced relatively few "mechanical" delays (3.74 hours per 100 scheduled hours). Only two "mechanical" delays were longer than 12 hours.

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REGULATORY

Examiner Disagrees With 'Use It or Lose It' Policy

A CAB examiner says it would not be fair to apply the Board's "use it or lose it" policy in a Texas local service case.

The local service policy states that, for renewal of temporary certificates, "each city will be required to meet a minimum standard of use; e.g., enplane an average of five or more passengers daily."

Examiner Thomas L. Wrenn, ruling on Trans-Texas Airways' intermediate stops that are up for renewal, pointed out that "use it or lose it" wasn't in effect when the points were first certificated and that, therefore, the cities hadn't been put on notice.

He disagreed with the policy, stating that it requires five passengers daily regardless of whether a city has only two daily schedules or several, whether schedules were timed to meet the needs of the point, whether the routing was to the main centers of community of interest, whether it was a direct or circuitous routing, and regardless of size and population of communities.

Wrenn did not recommend renewal of Beeville, Coleman, College Station/Bryan and Brady, Tex., and Stuttgart, and Helena/West Helena, Ark. Five-year renewals were recommended for Brownwood, Galveston, Kerrville, Ft. Stockton and Marfa/Alpine. Pecos and Marshall, Tex., and Magnolia and Camden, Ark., should be renewed until 60 days after final CAB decision in the Southwestern Area Local Service case, he said, adding that TTA should not be suspended on segment 2 between Corpus Christi and San Antonio.

DOD Opposes Restrictions on Military Airlift Bids

The Defense Department has stated that it cannot agree with a proposed CAB policy designed to prevent destructive competitive bidding by civil carriers for overseas military passenger traffic. Future of the policy statement is in doubt.

CAB's proposal is to (1) reinstate filed tariffs on MATS business instead of granting exemptions, (2) allow airlines to offer reduced rates for military traffic, (3) disapprove tariffs quoting rates less than 3.4¢ per revenue passenger-mile on an individually ticketed basis and 2.89¢ on a plane-load charter basis. CAB noted that it has only limited power to deal with the situation and must rely on cooperation

of DOD and acceptance by the carriers.

DOD said it could not agree to setting minimum rates since it is precluded by law from doing so and must rely on competitive bidding. It would be "inappropriate" for it to reject a carrier's proposal solely because it was contrary to a CAB policy which CAB itself cannot legally impose, DOD added. However, it said it would explore further that part of the proposal relating to individually ticketed service. Carriers split on their comments, many criticizing one or more parts of the statement.

AA Gets Approval for NY-San Francisco Nonstop

By a tentative vote of 3 to 2, CAB authorized American Airlines to be the third nonstop carrier in the New York-San Francisco market. Chairman James R. Durfee and Member Harmar Denny dissented. Decision was announced in a press release; formal order will be issued later. United and TWA, now serving the market, opposed a third carrier. AA already serves both points but has a mandatory stop at Chicago. Northwest Airlines also sought the route.

TWA Jet Lease Approved

Day-by-day lease of up to 11 Boeing 707s by Hughes Tool Co. to TWA has been approved by CAB, provided the airline files a copy of each lease. Rental is \$2,500 per day per plane. Also approved was acquisition by TWA of \$3.5 million in spare parts from Hughes. Action was deferred on the carrier's request to lease 30 spare jet engines until the terms of the deal are filed.

ROUNDUP OF ACTIONS

APPLICATIONS

Loan guarantee of \$2,118,996 was asked by Ozark Air Lines for purchase of three Fairchild F-27s. Company has signed a 10-year loan with City National Bank & Trust, Kansas City, at 5½% annual interest. Mercantile Trust Co., St. Louis, will participate in the loan for an amount up to one-third. Ozark directors have authorized issuance of 132,944 shares of \$1 par common stock.

CAB denied applications of Piedmont and Capital to substitute service of Piedmont for Capital over the latter's Norfolk-Knoxville route until 60 days after Board decision in the Piedmont Local Area Service Investigation. CAB said traffic and financial results of such a substitution can be better determined after formal hearing in the case.

Independent Airlines Association's commercial charter exchange should be approved by CAB, Examiner Curtis Henderson said in his initial decision. Trunklines opposed the renewal. But Henderson said the exchange's authority to solicit the general public for contracts for charter transportation of persons and property domestically should be continued indefinitely, and that overseas and foreign operations should be permitted for three years. He also recommended removal of certain CAB-imposed restrictions.

North Central Airlines was denied reconsideration of part of CAB's order in the Seven States Area Investigation requiring it to serve Ashland, Marshfield and Appleton, Wis., and Rockford, Ill. CAB said it can compel an "unwilling" carrier to serve these cities. Also denied was North Central's motion to stay the order to serve the cities until 120 days after decision on the airline's petition for judicial review.

CAB gave Northwest Airlines temporary permission to add Winnipeg, a point it already serves on another route, as an intermediate on its present Edmonton-Twin Cities route. NWA asked to serve Edmonton and Winnipeg on the same flight without local traffic rights. Permission is effective until 60 days after CAB rules on NWA's application for a permanent certificate change for the same authority.

ACTIONS

Empresa Guatemalteca de Aviacion S.A. (Aviateca) was approved by CAB and President Eisenhower for a three-year renewal of its foreign air carrier permit. An amendment allows the line to carry passengers as well as cargo on its Guatemala City-New Orleans route, adds Belize, British Honduras, as a mail-property intermediate stop, and permits carriage of mail Guatemala City-Houston.

CAB dismissed the application of Seaboard & Western Airlines for permission to buy 25% stock interest in Aerlinte Eireann, Irish Airlines' overseas operating company. S&W requested the dismissal . . . A change in S&W's transatlantic schedule pattern was approved by CAB to allow flag stop service at Hanover, Germany.

Cargo rates adopted by International Air Transport Association were approved by CAB. They cover all areas except transpacific routes and the Far East. Included is a 5% boost in North Atlantic traffic. Mid-Atlantic and U.S.-South America remain the same. Agreement is effective through Mar. 31, 1960.

MAIL RATES

CAB set North Central Airlines' temporary mail pay at \$7,483,480 for the period Nov. 23, 1959 to Feb. 28, 1959, an increase of \$463,000 over what the company received for the period. Future pay will be set at \$4,761,555 for the year beginning Mar. 1, 1959. This includes \$4,730,780 break-even need and \$30,775 estimated interest expense.

New York Airways' mail rate was fixed at \$8,895,916 for the period Apr. 1, 1959, through June 30, 1963. Of the total, \$8,488,482 is subsidy and \$407,434 is service pay.

A Meeting That Pays Off

Four southern-based U.S. airlines are helping to prove that interline competition belongs in the sales department, not in the maintenance and engineering offices.

Delta, Eastern, National and Pan American's Latin American Division have joined forces in a once-a-month technical attack on the maintenance problems of air transport operation.

On the second Monday of each month, specialists representing each of the four carriers get together in Miami for a six-hour discussion of common headaches. An agenda is decided upon in advance. The technicians most familiar with the subjects attend. Sometimes the group may include 12 to 15, but usually only two or three from each airline participate.

The idea for the sessions was hatched by Delta's engineering supervisor, A. C. Ford. Ford and Ambrose Chabot, Eastern's asst. v.p. and director of maintenance and engineering, started the meetings a year ago. They found them so helpful they decided to invite PAA and National to join. Pan Am's Norm Smith and J. G. Barber, then head of NAL's engineering, liked the

idea. Len Johnson of National, Barber's successor, now carries the ball.

The meetings pay important dividends to the carriers. For example, Pan American comes up with a bellows crossover tube in the DC-7B thermal anti-icer heater, a better repair than recommended by the manufacturer. Eastern, Delta and National get the immediate benefit of the PAA development.

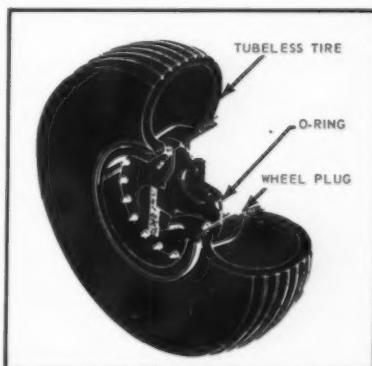
Or it might be a technique for overhaul of supercharger lube pump gear pumps to bring the oil pressure back up to 125 psi. Or again in the case of PAA, the drilling of a No. 67 hole in the supercharger drive shaft grease shield and use of Union Oil Co.'s Strona HT-1 grease to lick drive shaft overhead and seal leakage.

The benefits flow in all directions. Pan Am's Norm Smith says the sessions have brought 100 or more specific answers to PAA's operation from the experiences of NAL, Delta and Eastern. A good example: frame cracks in the DC-7B crew entrance area. Pan Am was looking for them but never found any until they learned from Delta that they were six inches further down the frame.

In another instance, the ADI (water injection fluid) inhibitor Pan Am was using wasn't doing the job. A monthly session brought out the fact that Delta and National were using Shell Dromus B (cutting oil) as an inhibitor. Pan Am adopted it too and the corrosion disappeared.

The beauty of the sessions, says NAL's Len Johnson, is that the participants all fly the same aircraft under about the same conditions. The meetings are not hampered by mass attendance by umpteen airlines, do not get big and cumbersome like some of the past ATA-industry get-togethers.

Delta's Ford sums it up this way: "The results have exceeded our best expectations and we think it's an idea that should catch on with other carriers."



Boeing 707 Wheel Plugs Prevent Tire Blowouts

Tire heating is a bigger problem in jets than piston transports because of the higher aircraft weights, faster braking speeds and greater rotational velocities involved.

To combat the heat problem, Boeing has put three soft blow-out plugs in each main gear wheel on the 707. The plugs, made of a low-melting-point tin and zinc alloy, act as fuses to prevent tire blowout caused by overheating. If a wheel heats to a critical point, the plugs melt and allow the tire to deflate. The plugs are designed to fail between 390F and 400F.

Plugs are located in the wheel body section. Wheels on the 707 are in two halves which are joined by tie-bolts with an O-ring seal at the mating surface.

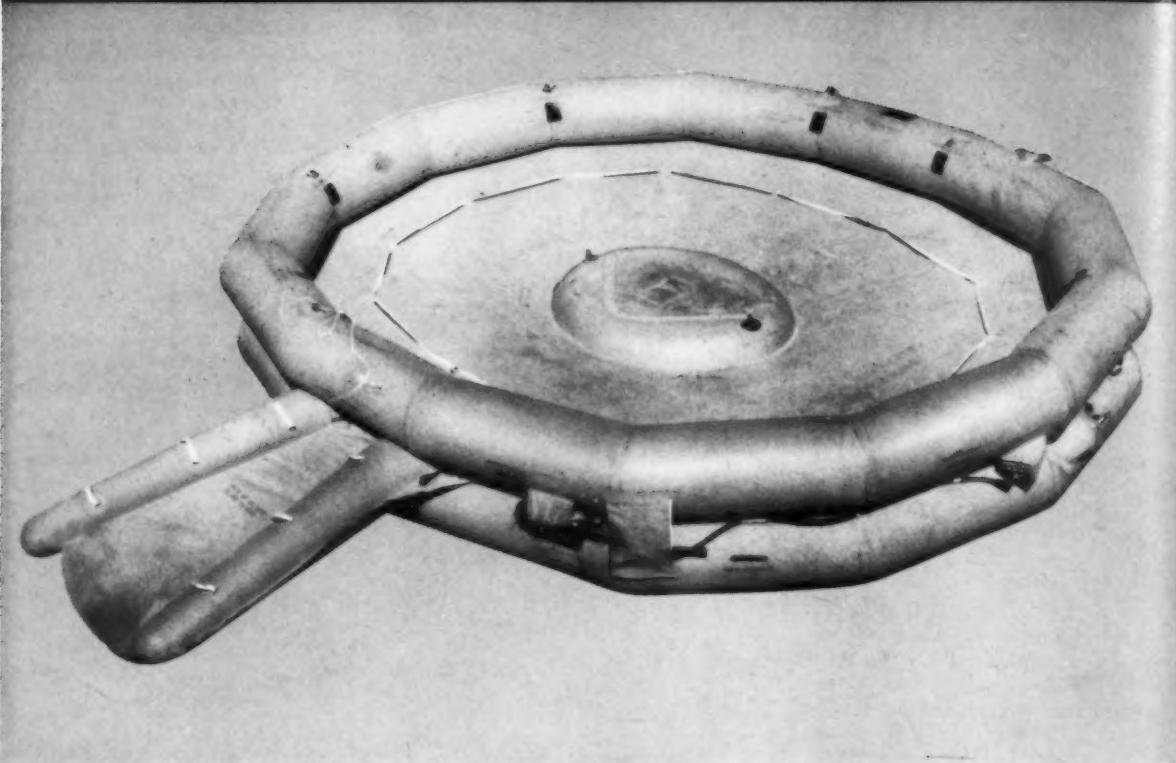
American is warning its ground crews not to try to cool overheated wheels by throwing water or fire extinguisher fluid on them. This could cause thermal cracking or an explosion of the wheel.



Arthur C. Ford, supt. of engineering for Delta (left), discusses agenda for Combined Airline Jet Planning Meeting (in Miami, May 11) with (L to R) D. S. Bigham, manager, aircraft engineering; E. N. Christian, manager, liaison engineering; and Walter J. Overend manager, performance and analysis engineering.

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Truco Super. Mfr.: Truck Equipment Co., Denver, Colo.; working height, 100 ft.; turning radius 360 deg.; raises 75 deg. from horizontal; two-stage telescoping boom, complete with outriggers. Uses either power takeoff or separate engine to power hydraulic system.

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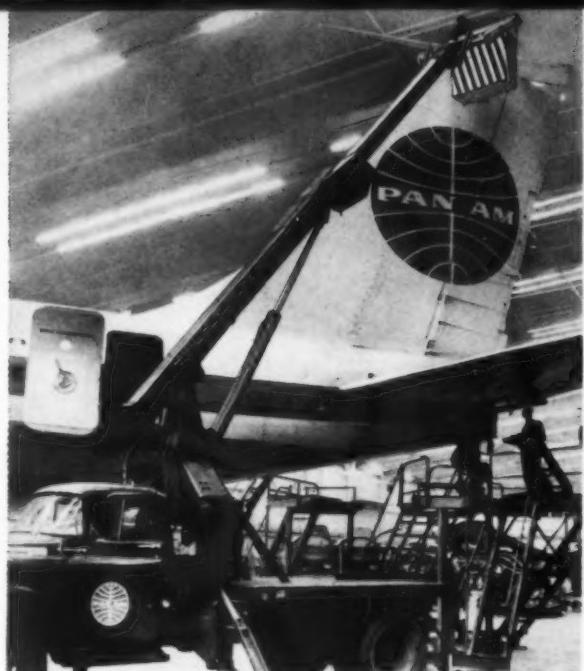


Giraffe. Mfr.: Pitman Mfg. Co., Grand View, Mo.; working height, 50 ft.; turning radius 360 deg.; two folding sections, mounted on two-ton truck.

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Industrial Monkey. Mfr.: The Peters Co., Portland, Oregon; working height, 48 ft.; turning radius 270 deg. with full swivel; actuated by solenoid valves and double-acting cylinders. Mounted on 16,000 lbs. or heavier truck.

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Simon Engr. Co. (Midlands) Ltd., Hydraulic Machinery Div., Queenscros, Dudley, Worcestershire, England; working height 40 ft.; full swivel, two jackknife sections; can accommodate four men on work platform. Spray unit mounted on truck with attached tank.

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NEW PRODUCTS



Portable Hangar

A portable aircraft hangar, which can be assembled or taken down in less than

½ hr., is being built by Airborne Service Equipment, Ltd., Essex, Eng. The hangar can house aircraft up to 40 ft. in span. It has a light alloy framework and polyurethane-proofed nylon covering.

Circle No. 5 on Reader Service Card.

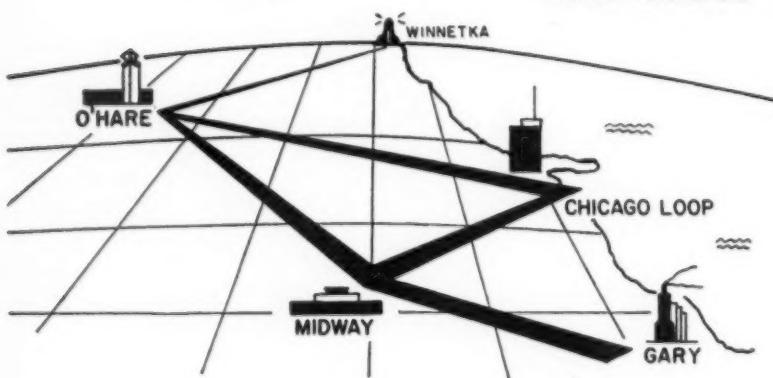
Jet Starter

New rotary screw compressor units, especially designed for jet aircraft, have been developed by Greer Hydraulics, Inc., Jamaica, N.Y. Called Greer-Atlas Copco Air Partner jet starters, the units incorporate compressors which have no wearing parts and are said to be virtually free of

maintenance. Jet and turboprop engines can be started at an estimated cost of only 50¢ per start. The compressor can be operated continuously under full pressure and flow conditions for over 8,000 hours without any maintenance.

Circle No. 6 on Reader Service Card.

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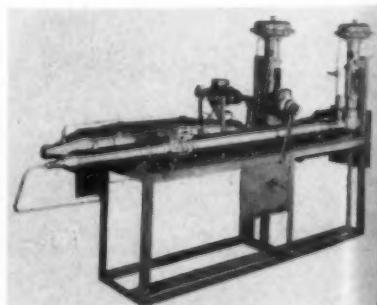
Circle No. 104 on Reader Service Card.



Freon Service

Garrett Corp.'s AiResearch Division, Los Angeles, has designed the first dual purpose Freon servicing cart. The unit can service transport air conditioning systems using either Freon 114 or Freon 12. With the dual purpose cart, Freon systems are evacuated to 100 microns Hg pressure, removing all trapped moisture from the system. While checking motor thermal protection, the service cart simultaneously dehydrates the compressor group. It then purges the system with dry nitrogen and adds lubricants by measured volume. Cylindrical sight gages give positive measure of the weight of Freon being introduced to system. First unit will be delivered this month to Eastern Air Lines for DC-7, DC-8, and Electra servicing.

Circle No. 7 on Reader Service Card.



Starter Test Stand

Kahn and Co., Inc., Hartford, Conn., has sold a new pneumatic jet engine starter test stand to American Airlines. Designated model KC-1115, the stand is made up of a compressor-receiver package to provide air; heater, meter, and control package which reduces output air to working pressure; a loading device with flywheel to simulate aircraft inertia; and an operators console containing all test gages. The test unit fits into normal-size test cell and can completely test a starter in less than 1½ hrs. Only one

starter can be tested at a time. Price is about \$27,000 for unit to test fuel/air and pneumatic starters, and \$20,000 for model to test pneumatic starters only.

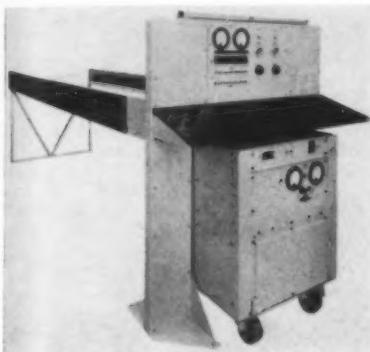
Circle No. 8 on Reader Service Card.

Test Set

A new, lower cost, portable vacuum and pressure aircraft instrument test set has been developed by the Intercontinental Dynamics Corp., Englewood, N.J.

Designed to sell for \$1,188 the unit can be used to check altimeters, rate of climb indicators, airspeed indicators, certain manifold and fuel pressure gages. It simulates pressures up to 50 psi and vacuums equivalent to 50,000 ft. altitude. It weighs 27½ lbs.

Circle No. 9 on Reader Service Card.



Battery Charger

Sorensen & Co., South Norwalk, Conn., has developed a battery charging unit which can charge as many as 12 24-v. batteries, 24 12-v. batteries, or 48 6-v. batteries at the same time. Power unit is a 28-v., 200 amp. dc supply with less than 1% ripple in the output. Input is 3-phase, 200-253 vac at 60 cps. Operator's console is equipped with a writing desk and lamp, voltmeter, ammeter, and pushbutton selector switch to allow monitoring of any charging station.

Circle No. 10 on Reader Service Card.



Jet-age Cradle

Pan American World Airways has designed an airborne bassinet for its traveling infants. Called the Clipper Cradle, the bassinet weighs less than five pounds and can support a static down load of 210 lbs. The cradle is mounted on the bulkhead with three quick-attaching fasteners. It comes completely equipped with washable mattress pad, cover, sheet, and safety belt. Over-all size is 16 by 35 in. by 7 in. deep. When not in use, it folds to a thick-

ness of 2½ in. Cradle is fully certificated under FAA TSO C-39 and is being offered for sale to other airlines.

Circle No. 11 on Reader Service Card.

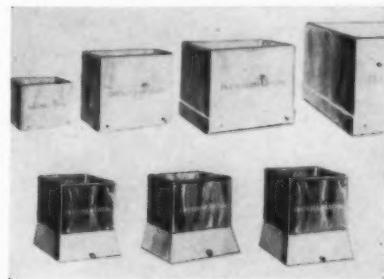


Floor Sweeper

A new battery-powered walk-behind sweeper has been developed by the G. H.

Tennant Co., Minneapolis. Known as the Model 40-E, the sweeper is 33 in. wide with a cylindrical 26 in. brush, and 17 in. rotary side brush. At its top speed of 1.9 mph, it is said to sweep 25,000 sq. ft. per hr. Power is supplied by two 12-volt batteries which drive the 1 hp motor. It will operate 1½ hrs. per battery charge. Dirt is tossed into a 2 cu. ft. hopper. A high vacuum fan sucks lighter dust into a 2,200 sq. in. filter area.

Circle No. 12 on Reader Service Card.



Sonic Cleaner

A mobile ultrasonic cleaner is being marketed by Acoustica Associates, Inc. The units are mounted on wheels and can be rolled about. Cleaning tanks up to 75 gals. and ultrasonic power generation to 2,500 w. can be provided. Power is from 115-v. or 220-v. outlet. Cleaning time for most items is less than one minute.

Circle No. 13 on Reader Service Card.



Eliminates antenna shading

Autonetics' new *Automatic Antenna Selector* insures uninterrupted radio reception in military and commercial aircraft. Used with dual-antenna systems, it assures a strong, continuous signal. Does away with manual switching and losses due to coaxial tees in the antenna feedlines. Simple to install... has a 10,000-hour operating life with minimum maintenance... completely reliable during high-speed maneuvers and in environmental extremes.

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Some things are bogus*

Some things are obviously bogus . . . but many are not. In aviation, there should be no substitute for quality. Bogus aircraft engine parts often can't be detected from the genuine. Slight variations in material, tolerances, and other specifications which are not readily apparent can still mean trouble.

As the Flight Safety Foundation, Inc., points out in *The Problem of Bogus Parts*,* "Another reason for serious concern is that the airworthiness certificate of your aircraft may be suspended or revoked if bogus parts are used in its repair, overhaul or maintenance."

Protect yourself against trouble with bogus parts by specifying original manufacturer's parts, and by buying parts from the original manufacturer, from his authorized distributors and dealers, or from recognized, reputable maintenance agencies.

**The Problem of Bogus Parts*, published by Flight Safety Foundation, Inc. A free copy of this informative booklet may be obtained by writing to Pratt & Whitney Aircraft, East Hartford 8, Connecticut, attention: Service Manager.



PRATT & WHITNEY AIRCRAFT
East Hartford, Connecticut

CANADIAN PRATT & WHITNEY AIRCRAFT CO., LTD.

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Circle No. 107 on Reader Service Card.

NEW PRODUCTS



VOR/ILS

Bendix Radio Division, Baltimore, has completed a new VOR/ILS indicator. It is a standard three inch instrument with VOR and localizer pointer, glide slope pointer, TO-FROM indicator, three marker beacon indicator lamps, omnibearing selector, and flag alarms for both VOR/localizer and glide slope. Numerals are raised $\frac{3}{8}$ in. high with either white-face or fluorescent markings.

Circle No. 14 on Reader Service Card.



Doppler Radar

A high-performance FMCW Doppler Radar Navigation System has been developed by Collins Radio Co., Cedar Rapids, Iowa. The system weighs less than 60 lbs., and exceeds ARINC sensitivity characteristics. It directs three beams of X-band energy toward the earth and measures frequency change received. Computer outputs indicate drift angle within 0.5 deg. and ground speed to 0.6 kts. plus one kt.

Circle No. 15 on Reader Service Card.

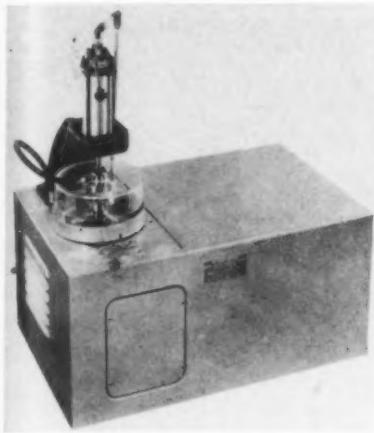
Fireproof Material

FAA has announced two materials for protection against aircraft fires have recently been developed by Johns-Manville. One is a flexible asbestos firewall cloth, called Tadpole Style 160, which is used to seal openings in aircraft firewalls, and



the second, Style No. 88, is a resilient packing seal used to control intense heat and flame in ultra high speed aircraft. Both materials withstood full one-hour exposures to 2,000°F flames in FAA tests.

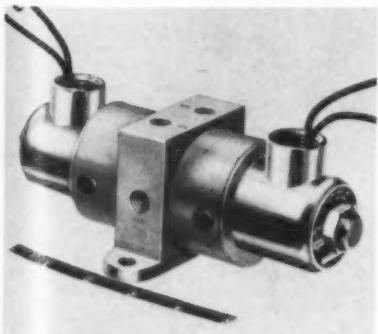
Circle No. 16 on Reader Service Card.



Bearing Cleaner

Bearing Inspection, Inc., Huntington Park, Calif., has produced a bearing washer capable of cleaning ball bearings—without disassembly—in less than one minute. The unit, called the Model MC-4-1, uses both solvent and air under pressure to clean. Bearings up to 14 in. in diameter can be spray washed in the machine. Cleaner occupies bench space of 18 x 30 in. and sells for about \$1,000.

Circle No. 17 on Reader Service Card.



Four-way Valve

Airmatic Valve, Inc., Cleveland, O., is making a four-way solenoid valve with full $\frac{1}{8}$ in. orifice for 0-3,000 psi, to $\frac{3}{16}$ in. orifice for 0-90 psi. Valve is corrosion-proof, and has only two internal moving parts. Internal media does not pass around solenoid plungers. Coils for continuous or intermittent duty are interchangeable and operate on ac or dc. Life expectancy is in millions of cycles.

Circle No. 18 on Reader Service Card.

Rain Remover

Dow Corning Corp., Midland, Mich., has tested a polysilane rain repellent for aircraft windshields. The chemical is called

JUNE, 1959

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NEW PRODUCTS

FC-30, and reportedly offers much better visibility in light or moderate rain, though little is gained in heavy rain.

Circle No. 19 on Reader Service Card.

INFO FOR THE ASKING

Runway cleaning—Wayne Mfg. Co., Pomona, Calif., runway sweeper brochure

gives complete specifications on the latest model available.

Circle No. 20 on Reader Service Card.

Cessna aircraft—Bulletin from Cessna, Wichita, Kan. has listing of all Cessna aircraft, complete with performance and engineering data, and three-view drawings.

Circle No. 21 on Reader Service Card.



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6430 S. Pulaski Road
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Aircraft tubing—70-page booklet from Ohio Seamless Tube, Shelby, O., has military and AMS specifications, sizes, tolerances, sampling, testing, etc. Also, information on heat treating, and various properties is included.

Circle No. 22 on Reader Service Card.

Pilot's computer—Color brochure outlines operation and principle of Mercator B-4 and B-4-HS high speed aircraft pilot's computers. From Mercator Computer, Alkmaar, Holland.

Circle No. 23 on Reader Service Card.

Data computer—Brochure from General Controls Co., Glendale, Calif. contains specifications on its GC Central Air Data Computer.

Circle No. 24 on Reader Service Card.

Refueling—Renick & Mahoney, Inc., N.Y.C. booklet describes hydrant and mobile aircraft fueling equipment plus service carts and component equipment.

Circle No. 25 on Reader Service Card.

Blind flying—Spec sheet from Cooper Ind., Chicago, contains information on Cooper Blind Flying Kit to obscure instrument trainees vision. Shows installation for all types of aircraft.

Circle No. 26 on Reader Service Card.

Jet fueling—Brochure called "Fueling Turbine-Powered Aircraft" gives charts, photos and diagrams of jet refueling installations. Both hydrant and mobile methods are covered. American Petroleum Inst., New York.

Circle No. 27 on Reader Service Card.

Instrument shipping—Bulletin from Continental Diamond Fibre Corp., Newark, Del. describes reusable instrument shipping cases.

Circle No. 28 on Reader Service Card.

NOTES ABOUT SUPPLIERS

• Eastern Air Lines has placed an order with Waste King Corp., Los Angeles, for 40 flight recorders to be installed in DC-8s. Amount of the order is \$300,000. Waste King unit will record 14 parameters, and has 200 hrs. capacity on 200 ft. of tape.

• Delta Air Lines has contracted with Alfinger's Water Corp., Dallas, for water to be used in DC-8 augmentation systems. The JT3C-6 requires 720 gals. for each takeoff. Contract is to run for two years with a three-year option. Delta has also selected the Lockheed Aircraft Service recorder for its DC-8s.

• Boeing Airplane Co. has received an order for 16 Turbo-Starters from Northwest Airlines. The starters will be used on Northwest's Electras and DC-8s. Also included in the Northwest order are a portable flyaway compressor, two spare turbine compressors, and four cart-mounted units. Boeing orders now total 71.

• KLM and AiResearch have contracted for 18 starters to be delivered between June 1 and September 1. The AiResearch starters are also designed to provide for ground operation of cabin air conditioning and ice and snow removal. KLM will mount the units in Volkswagen panel trucks.

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THE BULLETIN BOARD

Undisplayed Advertising: \$2.00 per line, minimum charge \$6.00. Cash with order. Estimate 30 capital letters and spaces per line; 40 small lower-case letters and spaces per line. Add two lines if Box Number is included in lieu of advertiser's name and address.

Displayed Advertising: \$20.00 per column inch. Space units up to full pages accepted in this section for classified-type advertising.

Forms close three weeks preceding date of issue. Address all correspondence to Classified Advertising Department, Airlift Magazine, 1001 Vermont Ave., N.W., Washington 5, D.C.

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Help Wanted

WANTED—Experienced man over 30, with background of general accounting familiar with ticketing airbillng procedures, some knowledge of customs and immigration requirements to be located in Miami. Knowledge of Spanish preferable. Box 181, AIRLIFT MAGAZINE, 1001 Vermont Ave., NW, Washington 5, D. C.

Chief Pilot to base Buenos Aires, age 35-40 minimum 10,000 hours multiengined aircraft with correct certificates. Must furnish record last ten years employment with five reputable personal references. All replies will be treated confidential. INICIA Aerolineas, Corrientes 1994-1 er, Pisco, Buenos Aires

For The Bookshelf

* The newly released 1959 Spring Issue of AIR TRAVELER'S GUIDE lists over 700 motels located in 277 airport cities. The GUIDE is published quarterly by American Aviation Publications.

* Aviation Directory of Canada. Published by AIRCRAFT (Canada) magazine. Price, \$5.00, 1945 pages.

* U.S. Aircraft, missiles and Space Craft. Published by Aircraft Industries Ass'n. for the National Aviation Education Council. Lists all aircraft and missiles which can currently be identified.

* For complete information on current transport discussions, order these papers by number from SAE (\$0.50 each for members, \$0.75 non-members) at 485 Lexington Ave., New York 17. Self-contained starters for jets and turboprops—Schmid-

der/Ferguson, Bendix Utica Div. (No. 48T).

Air packs for jet starting/air conditioning—Carr/Kalikoff, Consolidated Diesel (48S).

Jet powerplants for VTOL—Hewson, Rolls-Royce (64R).

Propulsion spectrum for VTOL—Richardson, Vertol (64S).

Ground handling commercial jets—Horan, Boeing (48R).

Effects of kerosene on jets—Brunton/DeWeese, Boeing (47R).

707 thrust reversers—Barfoot, Boeing (57S).

Gas turbine auxiliary powerplant—Stein, AiResearch (53S).

Jet takeoff/landing problems—Rhoades/Coykendoll, United Air Lines (60S).

Landing/takeoff performance rules—Spaulding, consultant (60R).

Jet noise suppressors—Callaghan, NASA (57R).

Two Haircuts in Russia

Countering Red Propaganda ... Far Off in Siberia

Siberia is a strange kind of a frontier. It has been settled for a long time. The Trans-Siberian Railroad, electrified, fine road bed and double-tracked, has long been operating. What the Russians are trying to do is to bring industrial development to an area that has not kept pace with the rest of the world.

Progress is quite evident. We were taken to a new 660,000 kw. hydro-electric power station and dam near Irkutsk and we couldn't help but be impressed. It is a major installation which will do much to modernize and develop the entire area. With obvious pride the manager gave us a complete tour. His is but one of many big power projects underway or completed throughout the Soviet Union.

Quite in contrast, we were driven 65 miles from Irkutsk to the lower end of 400-mile-long Lake Baikal to visit a collective fishing village, as primitive a place as one can find today. In an area of very few cars and trucks, the streets were nothing but dirt roads in poor condition and the houses were of the old Russian wooden type—comfortable and cozy, but with no modern conveniences.

Our Intourist group (there were two Irkutsk functionaries in addition to our own interpreter—Raya—from Moscow) drove us first to the "office" of the village manager. It was an unheated, drably furnished wooden house with a desk in one room and a table and chairs in a larger room for village meetings. The manager was a young man of 36, with greying hair and intense manner, who wore heavy clothing as befitted the day. It was mid-October but snow was falling in the mountains east of the lake and it was quite chilly and grim.

Hospitality and fish

The manager assured us we were most welcome. He was honored to have visitors from the U.S.A. and had arranged for us to have a meal in the home of one of the old women of the village. The fish dinner, in fact, was just about ready, so we would cross the road and partake of the village hospitality.

We entered through a small courtyard in which chickens were kept and into the warm house of three small rooms. The old lady, who sat quietly off to the side, had prepared what must have been a very wonderful fish dinner. Being allergic to fish, I could hardly stand the cooking odor but my wife says the several kinds of fish were delicious. I decided I had to have some air, so while the group feasted I took a walk down to the lake and snapped some photos of buildings and children. The local manager wasn't very happy about my disappearance, however, and shortly came after me. By that time most of the fish odor had disappeared so I nibbled on bread and a few items I could eat and the manager asked through our interpreter if he could ask some questions.

And here began one of those incidents that most tourists are faced with at some point of their Soviet visit—sharp, calculated questions by Russians which usually catch visitors off their guard. But I had been thrown questions out of the blue on my first trip to the Soviet Union, so I was prepared this time. It is quite difficult, sometimes, to know what questions are simply those of curiosity locally, or what questions have been set up in advance, for this is one excellent way of getting information and the Moscow intelligence system is remarkable.

I'll tell you what I mean. Here we were 3,000 miles east of Moscow in a primitive fishing village, and what do you think was the very first question which this collective village manager asked? I'll leave it to you to figure out if he thought of it himself or whether he was primed to ask it, especially since my wife is director of the passport office for our Dept. of State.

"Why did your government refuse to give a passport to Paul Robeson," was his first. I must say that a flash of anger went through me at the presumption of such an obviously-framed-up question asked in this isolated village. My wife was equally alert. Believe me, between the two of us, the collective manager got his answer and then some.

Relating the conversation would take too much space, but you all know the Paul Robeson story. Sharply critical of the U.S., he has loved the Reds but he goes there with costly suits and knocks us while never willing to give up that valuable U.S. citizenship. And can the collective manager apply for a passport from his own government and get one? How about the 500,000 Americans who freely visited Europe last year? If the situation were reversed, would the U.S.S.R. let a guy like Robeson exist, let alone travel?

One thing that seemed to leave the manager at a loss for words was our invitation for him to visit the U.S. Why not, we said, he would be welcome. The truth is, of course, that he has as much



Photos by Wayne W. Parrish.

Up this dirt street of a fishing village on Lake Baikal, WWP was offered a fish dinner.

chance of getting out of Russia as a convict in a Siberian prison camp.

We must have had a word battle for an hour. The manager got around to that ever-present toast—a toast to peace. And we poured it on. Who wants war? Certainly not the U.S., but what about Khrushchev's boast about "burying us"? Nobody in the group had heard of such a statement, but my wife and I assured them the boast had been published everywhere in the world—except, of course, the U.S.S.R. How could they know what was going on in the world when the Soviet press is controlled by the state? They should get out and see the world and find out things on their own, we said, but of course they simply aren't free agents.

Then some more questions

The manager asked me a lot of questions about my salary, who sets my salary and the salaries of employees, and I tried to explain how pay scales are set. I gave a few samples, translated into rubles, which obviously jolted them, and how hiring is done in a competitive market and you pay what the going rate is, not what you might want to pay, and how there are bonuses and pension plans and insurance and clinic exams and hospitalization and all the rest, and how everybody owns cars and many own their own homes.

It was quite a session around the table near one of those very old Russian stoves that serve both for cooking and heating. The vodka was excellent and both my wife and I warmed up to the debate. I think we won. As the afternoon was wearing on we drove back, wondering again about this strange world we live in where so many people are blocked off from knowledge and freedom, and thanking our stars we were Americans.



Siberian belles of the Lake Baikal fishing village.

airlift

June, 1959

Expires August 15, 1959

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June, 1959

Expires August 15, 1959

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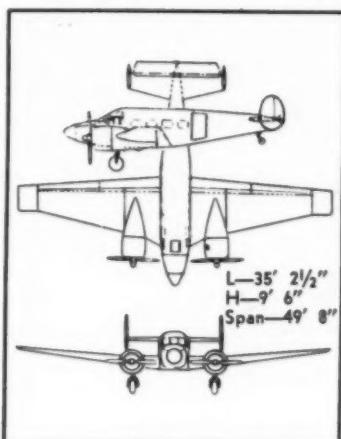
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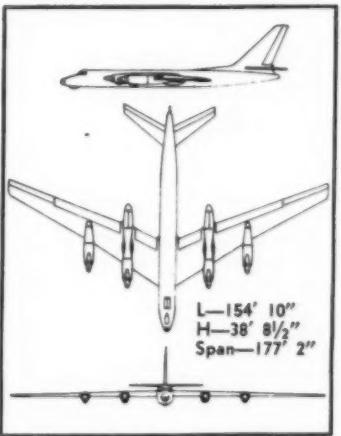
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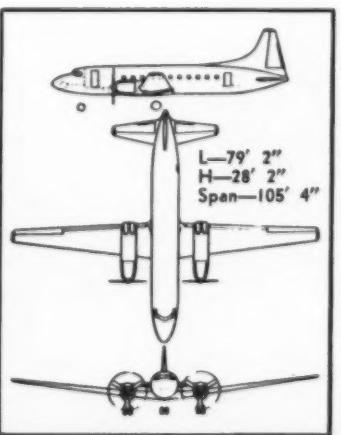
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BEECH SUPER 18

TYPE: twin-engine executive transport.
WEIGHTS: empty—6,050 lbs.; gross—9,300
lbs. POWERPLANTS: (2) Pratt & Whitney
R 985 engines; rating—450 hp. PERFORMANCE:
max. speed—234 mph; cruise speed
—215 mph; initial rate of climb—1,490 fpm;
range with 2,645 gal. fuel—1,626 mi. (max.
payload, 45 min. reserve) MFR.: Beech Aircraft
Corp., Wichita, Kan.

NOTES (for your personal use):

TUPOLEV Tu-114

TYPE: four-engine turboprop airliner.
WEIGHTS: empty—188,274 lbs; gross—
413,917 lbs. POWERPLANTS: (4) Kuznetsov
NK 012M or 022K turboprops rated at 12,000
hp plus 2,645 lbs. thrust with 8-blade counter-
rotating propellers. PERFORMANCE: max.
speed—565 mph (cruise) climbs to 32,800
ft. in 36.5 min.; range—6,214 (normal)
9,010 (max.)

NOTES (for your personal use):

CONVAIR 340

TYPE: twin-engine 44-52 passenger trans-
port. WEIGHTS: empty—32,399 lbs.; gross—
47,000 lbs. POWERPLANTS: (2) 2,400 hp
Pratt & Whitney R 2800-CB 16 engines. PER-
FORMANCE: max. speed—314 mph; cruise
—292 mph; range 1,150 mi. MFR.: Convair
Division of General Dynamics, San Diego,
Calif.

NOTES (for your personal use):

Aircraft Data Cards

Selected for Aircraft Data Cards in this issue of *AIRLIFT* are the Beechcraft Super 18, Tupolev Tu-114, and the Convair 340.

Beech Super 18 is the latest version of the light twin executive airplane which was first marketed in 1937.

The Tu-114 is the civil version

of the Tu-95 Bear bomber. It is made in two models: a high-density, 220 passenger transport, and a faster, slimmer version called the Tu-114D.

Convair 340 is based on the Model 240 with a longer span, longer fuselage, and more powerful engines.

BEECH SUPER 18



Aircraft Data Card
June, 1959

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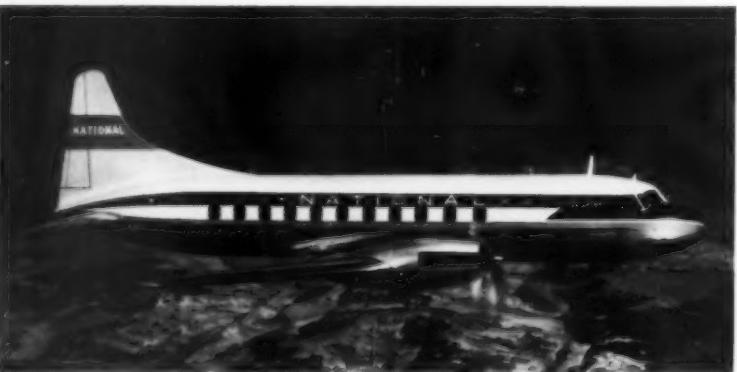
TUPOLEV Tu-114



Aircraft Data Card
June, 1959

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CONVAIR 340



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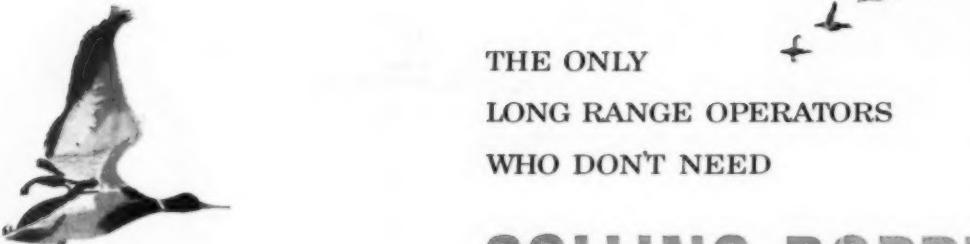
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